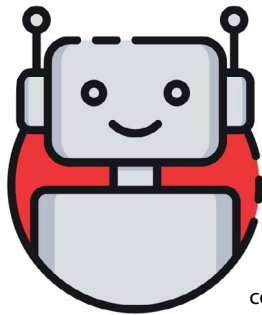


Artificial Intelligence



Study: WHAT CONSUMERS THINK ABOUT AI

► *Trend Watch:* From robots to analytics, AI is being used for better patient care and engagement

A study commissioned by Pegasystems, “What consumers really think about AI: A global study,” revealed consumers are open to the use of AI when it comes to their health:

- 65% of consumers agree that communications from their doctor’s office motivate them to take action to improve their health.
 - 42% of consumers are comfortable with doctors using AI for care decisions.
 - 31% are comfortable with insurers using AI-supported chatbots to answer questions online.
 - 29% are comfortable with insurers doing so.
- As for virtual care and data access:
- 77% of care providers already offer virtual appointments.
 - 60% would give doctors real-time access to in-

formation via connected devices.

- 58% are willing to give doctors access to mobile health app data.
- 55% of consumers are open to virtual appointments.
- 37% would give insurers real-time access to information via connected devices.
- 16% of care providers are building that capability today.

To accommodate consumer demand, 86% of businesses report currently exploring new technologies to engage members/patients and another 13% plan to within the year. “Overall, we’re seeing positive trends in the healthcare industry when it comes to personalized patient engagement, including providers and payers, but there’s still quite a bit of work to be done,” says Kelli Bravo, VP and industry market lead of healthcare & life sciences at Pegasystems.



AWS Provides Deep Learning and PREDICTIVE ANALYTICS

Last year, Amazon stepped foot into the world of AI and machine learning (ML), adding significant technology capabilities to its cloud stack. Amazon Web Services (AWS) launched SageMaker, which has added 90-plus enhancements in just one year, with more than 200 new ML launches and major updates since the launch. SageMaker is a fully managed platform that is designed to enable developers and data scientists to build, train, and deploy machine learning models at any scale.

A recent addition on the ML and AI discovery page on AWS Marketplace is from Perception Health, a provider of healthcare market prediction software. Perception Health provides proprietary CARE algorithms powered by Amazon SageMaker that can be licensed by users on a per-patient basis and run on AWS.

“Our team of data scientists has been working for the last year to create and refine multiple prediction models for specific diseases and surgical events,” says Chris McLaurin, chief technology officer, Perception Health.

Perception Health already brings advanced disease prediction models to the industry, and with Perception Health’s CARE algorithms running on Amazon SageMaker, it can deploy disease models that use AI in the selection and screening of patients through the prediction models.

GE Healthcare is also expanding its use of AWS services and taking advantage of Amazon SageMaker. “We are all in on Amazon SageMaker for our deep-learning capabilities going forward,” says Andre Sublett, health cloud, learning factory, and core services engineer at GE Healthcare Digital.

The company launched the GE Health Cloud in the United States to provide radiologists and other healthcare professionals with a single portal to access enterprise imaging applications (e.g., PACS) to view, process, and easily share images and patient cases. “Our digital strategy is about improving connectivity, elasticity, and or use of applied analytics,” says Mitch Jackson, VP of cloud strategy and technology for GE Healthcare Digital.

AI Chatbots And Voice IMPROVE PATIENT EXPERIENCE

CareThrough Chatbot

CareThrough, a HealthChannels company, has teamed up with chatbot technology provider LifeLink to provide high-touch personalized patient navigation services at scale across healthcare. LifeLink’s advanced conversational patient engagement platform gives patients care-related concierge services via mobile phone-based messaging. Chatbots augment the vital communications between patients and their care teams and improve responsiveness and service. Emergency room wait times, appointment reminders, directions to the healthcare facility, medication compliance and post-op care plans are all personalized and automated.

“Our clients are looking for smart technology to serve a range of populations, from the 75-year-old patient to the millennial,” says CareThrough President Kyle Cooksey. “The common denominator is that they all rely on and use mobile phone-based messaging and chat.”

Orbita Voice

Orbita Voice has enhanced its offerings for healthcare organizations to include three new features to simplify the process of designing, building, managing, and optimizing secure, enterprise-grade healthcare applications that integrate conversational AI technology. The enhancements include:

a knowledge management framework for quickly building conversational voice and chatbot applications; an intuitive, graphical studio with a flowchart-like interface for creating conversational applications; and a flexible analytics platform used to define and monitor key performance indicators.

Orbita also recently announced a collaboration with Mayo Clinic that expands Mayo’s first-aid voice app beyond Amazon Alexa to add Google Assistant and a voice-powered web chat platform. This will provide new capabilities to deliver first aid content via Google Assistant-enabled devices.

“Expanding the delivery of Mayo Clinic content through more voice channels helps give consumers ready access to trusted health information where and when they need it,” says Sandhya Pruthi, M.D., general internal medicine physician and associate medical director of Mayo Clinic Global Business Solutions.



Care Assistants AND ROBOTS

Mabu Healthcare Companion

Mabu, a personal healthcare companion created by Catalia Health, is an intelligent, socially interactive robot whose conversations are tailored to each patient she works with. Mabu uses emotional intelligence AI from Affectiva, an MIT Media Lab spinoff company, to interpret human feedback and reactions from facial expressions. The robot has daily two to three minute conversations with patients to check in on whether they're taking their medication, what challenges a patient is facing, and if a medication regimen is working or not for a patient.



Recently Catalia Health teamed up with the American Heart Association to bring AHA-approved content on heart attacks and strokes to Mabu to help reduce readmission to hospitals for congestive heart failure patients.

As part of the AHA's Center for Health Technology & Innovation's Innovators Network, Mabu will use heart attack and stroke data that has been collected over the years and validated by medical science. Mabu is being used by about a dozen congestive heart failure patients at Kaiser Permanente.

Mabu, launched in 2015, can also assist biopharmas by providing access to real-world data about how their treatments improve a patient's quality of life. This information is valuable both for showing providers and payers the RWE data for the efficacy of the drug and the ways in which it improves patients lives.

Pillo Healthcare Companion

Pillo Health offers an in-home digital care management platform that provides personalized care for adults with chronic conditions seeking to live healthier, more independent lives. Pillo is an inter-

active and engaging companion robot that stores and dispenses medication, shares patient education, guides users to follow provider-directed care plans, and connects patients to care teams and caregivers. It captures data from the home and generates actionable insights for providers of care.

The Pillo care management platform offers a patient-friendly interface for health organizations to engage with patients and deliver quality care directly in the home. Pillo Health and Orbita Voice partner to deliver engaging voice-first experiences and to create and manage powerful interfaces for the company's care management platform and the device.

Pillo uses AI algorithms to proactively engage with patients, improve therapy adherence, and deliver personalized care for adults living with chronic conditions.

Leveraging the power of voice experiences, artificial intelligence and data analytics, Pillo assists users with complex therapy regimens, encourages adherence to provider-directed care plans, enables connectivity to care teams, and captures valuable health data from inside the home.



Precision For Medicine Acquires INDUSTRY-LEADING AI TECHNOLOGY

Precision for Medicine, part of Precision Medicine Group, has acquired SimplicityBio, adding artificial intelligence to Precision's QuartzBio multiomic data integration and informatics platform. The addition of an AI engine to QuartzBio provides Precision's clients with an end-to-end solution for the "big data" challenge observed in biomarker-guided drug development — furthering their mission of maximizing the value and utility of biomarker data generated in the course of a clinical trial.

Biomarkers are increasingly at the forefront of precision medicine, and they are central to predicting and understanding clinical outcomes across a variety of treatments and populations. However, the proliferation of biomarker data poses a massive challenge for teams to compile and integrate data sets comprised of tens of millions of data points from multiple labs covering diverse assay types. The QuartzBio platform dramatically accelerates harmonization and organization of these complex data streams into actionable, integrated sets across all "omics" and clinical information.

Originally developed at the Swiss university HEIG-VD with early industrial adoption, SimplicityBio's AI approach employs a unique multiomic agnostic approach to uncovering novel combinations of biomarkers utilizing diverse data streams. As a proprietary technology of SimplicityBio, the AI-based algorithms have been used extensively in development of complex multiomic signatures and have been the subject of published scientific research on the use of AI for biomarker assessment, establishing SimplicityBio as an industry leader in the emerging artificial intelligence healthcare space. SimplicityBio is also a founding member of the Alliance for Artificial Intelligence in Healthcare (AAIH), a global advocacy organization focused on enabling the advancement and use of AI in healthcare.

The combination of QuartzBio and SimplicityBio means that for the first time organizations can access their complete multiomic (genomic, transcriptomic, proteomic, flow cytometry, etc.) data in real time to inform on-trial decisions. The addition of SimplicityBio's AI analytics platform allows clients to seamlessly explore AI-derived signatures across these integrated omic and clinical data sets and interrogate the output in an intuitive, interpretable, interactive, and secure manner. This actionable data will lead to more comprehensive disease mechanism understanding, drug target discovery, advanced biomarker identification, patient stratification, and drug repositioning.