A New Kind of Body Shop

Mid-future neutral scenario

Implanting technology in the human body for various aesthetic and functional purposes has entered the mainstream as a popular new form of self-expression. Tech-focused body modification—called grinding when performed DIY—emerges as a new market situated somewhere between the decorative piercing industry and the medical field. A new type of establishment begins to appear in major cities to serve this subculture, a hybrid of a walk-in neighborhood clinic and a tattoo shop. These body shops have retail storefronts, but with enough equipment, trained staff, and permits to allow them to perform minimally invasive surgeries. The most popular requests for implants? Magnets, RFID chips, glow-in-the-dark shapes, and wireless data storage. Sounds pretty cool, until you walk through your next metal detector.
In the wake of COVID-19, schools, offices, and even homeowners began using biometric scanning systems to determine whether someone is sick—and to grant or deny them entry.

Office buildings, grocery stores, movie theaters, and health care facilities now use temperature checks to screen for COVID-19 symptoms, based on guidance from the Centers for Disease Control and Prevention. This year, Plott will introduce the Ettie, a $300 video doorbell system that performs an automatic temperature check and displays it back to the user. An LED panel will glow red if a visitor has a fever, and the system will refuse her entry. Ettie can also be programmed to limit the capacity of entrants; when capacity is hit, the door will not unlock (even if that person has been temperature-cleared). FLIR Systems, an infrared camera maker, sells FDA-certiﬁed cameras that can check workers in 10 seconds or less and focuses on tear ducts, which tend to give a truer reading of someone’s body temperature than the forehead, which can be warmed by hats, hoods, and direct sunlight.

Biometric screening systems run up against paradoxical regulations in the U.S. While the Health Insurance Portability and Accountability Act (HIPAA) requires companies to develop and follow procedures that ensure the conﬁdentiality and security of protected health information—meaning that workers would need to consent to be scanned—customers and other members of the public are not covered under HIPAA (unless the owner of the camera is a health care provider). It’s not clear whether infrared doorbells on private homes would be allowed under California’s Consumer Privacy Act. Laws in Illinois, Texas, and Washington now regulate the collection of biometric data, including body scans.

New biometric screening systems use thermal imaging to check temperatures.
Health care is the next battleground for big tech companies. Amazon, Google, Apple, and Facebook see health care as ripe for disruption—and an industry where they can make positive improvements.

**Examples**

Data scraped from Fitbit devices—steps taken, heart rate, hours of sleep, and other key metrics—lets Google make recommendations and optimize consumer habits. It also opens a giant pool of data for research. Google and Ascension, one of the largest health care systems in the U.S., will build a robust search tool to aggregate patient data—lab results, hospitalization records, vital statistics—and house it under one system. The Apple Watch Series 4 doubles as a medical device, able to detect when someone has a hard fall and to call 911; identify a dangerous heart rhythm condition called atrial fibrillation; and track menstrual cycles, heart rate, and overall mobility. Apple’s Health Records, launched in 2018, pulls data from other Apple products to help patients and providers see comprehensive data—medications, lab results, immunizations—in one spot. Meanwhile, AC Wellness, a subsidiary of Apple and a clinic for Apple employees, started offering free genetic screening in 2019. Facebook’s Preventive Health tool lets users set reminders for health screenings and find nearby providers.

**Empower your patients with Health Records on iPhone.**

The Health app makes it easier than ever for users to visualize and securely store their health records. Now your patients can aggregate their health records from multiple institutions alongside their patient-generated data, creating a more holistic view of their health.

Apple’s Health Records offers an alternative to traditional electronic health records systems.
DISRUPTIVE IMPACT

The world’s largest tech companies are tackling the $3.6 trillion U.S. health care industry with initiatives spanning basic scientific research and health care application research, revamping insurance, creating new clinics, and melding our data with their interactive devices. Google is a world leader in applying AI to medical research—its automated breast cancer detection system already outperforms oncologists. Pre-pandemic, health and medicine inquiries made up 7% of all Google searches. Google’s $2 billion Fitbit purchase should spur more health care innovation. Facebook’s preventive health tool could influence health outcomes for users by relying on the social media company’s standard notifications. Yet Amazon’s plans are the most comprehensive of all tech companies—and potentially the most disruptive to the health care industry. (See: Amazon’s Health Care Ambitions.)

EMERGING PLAYERS

- Google Health VP Dr. David Feinberg
- Google Senior Fellow Dr. Jeff Dean
- Google Cloud
- Apple Chief Operating Officer Jeff Williams
- AC Wellness
- Facebook Head of Health Technology Dr. Freddy Abnousi

Amazon is among the big tech companies disrupting traditional health care.
Amazon’s Healthcare Ambitions

When Amazon acquired mail-order pharmacy PillPack in 2018, many thought it was just an extension of the company’s logistics and delivery business. If consumers were already buying toilet paper at Amazon.com, why not blood pressure medication? Those who intentionally connected the dots between Amazon’s different strategic initiatives saw a clearer, bolder picture of Amazon’s health care ambitions—a massive disruption of health care was already underway.

In 2019, Amazon rebranded its acquisition as PillPack by Amazon Pharmacy, which launched in late 2020. Now patients can ask their doctors to send prescriptions directly to Amazon, which then ships medications to consumers. This signals in-directly to Amazon, which then ships medications to providers. HealthLake will make it easier for Amazon to partner with more health care providers and build its health ecosystem.

Data Analytics
Amazon Web Services (AWS) launched HealthLake, a health care analytics platform that is HIPAA-eligible and works to standardize unstructured clinical data for the cloud (solving a major pain point for providers). HealthLake will make it easier for Amazon to partner with more health care providers and build its health ecosystem.

Drug Development
Partnering with Accenture and Merck, AWS created a cloud-based informatics research platform to improve productivity, efficiency, and innovation in the early stages of drug development.

Telemedicine
Amazon Care, the company’s telemedicine program, has been expanded to a broad range of employees beyond its Seattle-focused beginnings. Early pitches of the service to outside employers could start to upend the current provider and insurer market.

Online Pharmacy
Amazon Pharmacy offers online prescription fulfillment and home delivery of medications via the Amazon website or mobile app. Amazon Prime members get free two-day delivery, of course. There are now 118 million Prime members in the U.S.—if even 10% move their prescriptions away from a traditional drugstore retailer (like a CVS, Walgreens, Rite Aid, or a local pharmacy), it could cause serious disruption to the $312 billion pharmacy and drugstore retailer market.

Medical Transcription
Amazon Transcribe Medical is an automatic speech recognition service enabling providers to transcribe examinations and other medical commentary in real time.

Senior Care
Last year, Amazon launched Care Hub, a tool to assist caregivers in senior home centers. One feature: If a senior says “Alexa, call for help,” it will automatically ping the caregiver.

Personal Diagnostics
Alexa now recognizes changes in individual voices, by detecting emotional states and other factors, such as whether someone has a stuffy nose. Last year, Amazon launched Halo, its data-hungry health monitoring wristband. Halo measures body fat percentage, listens to the user’s emotional state, and monitors heart rate and other activity. One of the largest electronic medical record companies, Cerner, said that Halo users will have the option to upload information collected by the device to their physicians’ Cerner health record, beginning with the Sharp HealthCare system in San Diego. Insurer John Hancock is partnering with Amazon to offer members a free Halo and three-year membership in exchange for data.

Bottom Line
As Amazon continues to prioritize customers and their experiences, it poses an additional threat to traditional health care providers. In the U.S., customer service throughout the health care value chain—scheduling appointments, getting lab results, standardizing medical records, billing, insurance—is notoriously bad. Amazon stands to cut out middlemen that drive up health care costs. It could transform the cadence of work, by creating instant medical records and offering immediate diagnostic results.

For those who point to the dissolution of Haven, Amazon’s joint venture with Berkshire Hathaway and JP Morgan Chase, as a sign of trouble, note that the collaboration resulted in Amazon making tremendous progress on its own Amazon Care program.

Grocery Stores
At Amazon Go grocery stores, shoppers select foods and pay using gestures or other biometric recognition. Shopping data is stored and can be correlated with other health data. Quantifying how many bags of chips bought in a year—versus how many apples—could be an interesting data point on a future personal health record.

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