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Big tech didn't waste a crisis: How Amazon, Microsoft, and Google are using coronavirus to make new inroads in the $3.6 trillion US healthcare industry

Blake Dodge Aug 6, 2020, 6:56 AM

A worker in a face mask walks by trucks parked at an Amazon facility as the global coronavirus outbreak continued in Bethpage on Long Island in New York. REUTERS/Andrew Kelly

Innovation Inc.

- The coronavirus pandemic made healthcare and major tech companies more intertwined than ever.

- Driven by outbreaks, providers leaned on Amazon, Microsoft, and Google to get systems up and running for telehealth, triage bots, supply management, and more.

- Now they're baking those tools into their permanent strategies and rethinking a future with more tech.

- "All of this is a genie that is not going to be put back in a bottle," Jonathan Slotkin, the associate chief medical officer of Geisinger Health, told Business Insider.

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Healthcare has long lagged behind other industries when it comes to technology. For plenty of hospitals, having medical information available on the internet instead of locked away in boxes is a huge

ask.

Not long ago, working with major tech companies was basically a nonstarter for many healthcare leaders. After Ascension moved to transfer 50 million patients' medical information onto Google's cloud in late 2019, government leaders and the public had concerns about patient privacy in the digital era.

But the coronavirus pandemic sped up what's been a slow march to improve things. That's pushed Amazon, Google, and Microsoft — firms that power a lot of today's most popular solutions to manage outbreaks — deeper into the $3.6 trillion healthcare industry.

In the middle of a pandemic, Business Insider spoke to more than a dozen healthcare leaders — 7 of them tech chiefs at major health systems — who're now thinking about cloud providers in a new way. Many health systems are doing work on the cloud they say was critical to keeping patients and workers safe during outbreaks.

That bodes well for the public cloud providers, which share computing and storage services over the internet through a vast network of servers. The public cloud market is worth anywhere from $200 billion to $300 billion, and healthcare is a largely untapped piece.

"We've talked to the Amazons and the Googles. They're all investing tremendous amounts of capital trying to penetrate different parts of what is a huge healthcare market," Andrew Callaway, RBC's global head of healthcare deals, told Business Insider.

"And it'll be interesting to see what the landscape looks like in a decade, but I'm certainly convinced that one or a handful of these tech companies are going to make a major move," he said.

There's two categories, more or less, for cloud-based work with big tech firms in healthcare. Like Ascension's move, providers can migrate their entire systems to the cloud, including medical records; or they can sign up for cloud work that revolves more around individual projects.

Health systems were moving to the cloud before the pandemic hit, and some said it hasn't changed their larger cloud strategy. Analysts told Business Insider that outbreaks may have even slowed some enterprises' move to the cloud, including in the healthcare industry, since it's expensive and takes a long time.

But it did force legacy health systems to engage with care that's delivered online in such a way that they're getting a crash course on cloud-based technology, said Tom Cassels, the president of Rock Health, a digital health venture fund and advisory firm.

At the same time, providers are also using tools built or powered by the tech giants more and more to interact with patients, even if a full move to the cloud might not be in the cards for all health systems, he said.

"It's an evolution of the total digital footprint of the health system,"

Cassels said.

Google CEO Sundar Pichai addresses lawmakers. Getty Images

AWS, Microsoft, and Google raced to help health systems adopt the cloud and new tools in the wake of the pandemic

It's been a busy few months for tech giants. Companies like Amazon, Microsoft, and Google have tackled testing, contact tracing, telehealth, back-to-work programs, ventilator production, and far more.

Amazon Web Services has seen more healthcare companies lean on its technology since the pandemic started, Wilson To, head of worldwide healthcare business development at AWS, told Business Insider.

Hospitals like MedStar Health and UC San Diego Health used AWS for telehealth, chatbot services, and machine learning to deal with surging cases and support employees who're now working from home, To said.

AWS posted slowed revenue growth for the second quarter, as companies tried to cut down on their cloud expenses. At the same time, some companies are wishing they had better web-based infrastructure to handle the ebs and flows of business during the pandemic, Amazon's Chief Financial Officer Brian Olsavsky said on Thursday's earnings call.

Microsoft's coronavirus response has been just as wide ranging, and earnings show its cloud business is taking off, surpassing $50 billion in annual revenue for the first time.

It tackled overwhelmed intensive care units and call centers with new platforms and bots, respectively, and more quickly launched Microsoft Cloud for Healthcare, the company's first industry-specific tool set for cloud work, said Dr. David Rhew, the chief medical officer of healthcare at Microsoft.

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Google's phones have been ringing off the hook, meanwhile, for help with telehealth, bots, and general analytics, Chris Sakalosky, who oversees healthcare sales at Google Cloud, said in an interview.

While the first wave of outbreaks was largely characterized by providers struggling to figure out what it meant for their businesses, now they're baking in tools adopted during the crisis into their long-term strategies, he said.

About 43% of patients in six countries started getting some treatment at home through videos or online chats, Accenture data show; at the same time, 60% say they want to keep using the technology in the future and trust their healthcare providers more than before coronavirus.

"I think the pandemic not only has pushed us over a chasm from technology perspective, but it's accelerated that collaboration, which has built that trust that I think will be enduring for decades to come," Sakalosky said.

Google Cloud's growth slowed during the last quarter, but still generated more than $3 billion in revenue, up 43% since last year, Business Insider's Rosalie Chan reported.

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A medical worker puts on protective equipment at the United Memorial Medical Center's coronavirus disease (COVID-19) intensive care unit in Houston, Texas, June 29, 2020.
Callaghan O'Hare/Reuters

The pandemic exposed hospitals' shortcomings

David Linthicum, Deloitte's chief cloud strategy officer, said that coronavirus is driving healthcare to the cloud because it underscored the system's vulnerabilities.

The need to report cases and bed capacity to federal and local health

wings, predict shortages of protective gear and nasal swabs, communicate ever-changing guidance about the coronavirus quickly to tens of thousands of employees — have all been reasons to work with tech firms over the past few months.

Google Cloud's National Response Portal, for example, aims to aggregate information from partnering health systems so that health officials can better understand outbreaks. The US Department of Health and Human Services, for another, tapped software company Palantir to sift through billions of coronavirus-related data points.

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Pennsylvania-based Geisinger Health boosted its past work with AWS, TigerConnect, a messaging and video app hosted on AWS, and the telehealth giant Teladoc during the pandemic, Dr. Jonathan Slotkin, who heads up medical tech for Geisinger, said.

The app's become the "fabric" of how the system runs and communicates with itself, and other telehealth tools are helping with general safety precautions, Slotkin said. For example, doctors are seeing dialysis patients over iPad, while the nurse is physically present, in order to avoid bringing extra risk to a frail group.

"All of this is a genie that is not going to be put back in a bottle," he said.

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In 2019, Providence St. Joseph Health agreed to work with Microsoft for five years, using Microsoft's cloud services and artificial intelligence tools.

Now, the health system is moving its legacy data centers and applications to Azure even faster than they were prior to coronavirus. That's because of budget constraints caused by the pandemic and a greater understanding of what the cloud is capable of internally, B.J. Moore, the chief information officer at PSJH, said.

"People were supportive before, but it's one thing just to read a PowerPoint and see how important it is to go to the cloud," Moore said. "It's another thing to live that importance."

The pandemic also sped up their work with Microsoft beyond migrating to the cloud.

"We pretty much saw an acceleration across the board during that three months," Moore told Business Insider. "Not just our migration to Azure, but migration to other tool platforms like Office 365, security — everything."

Azure hosted PSJH's chat bot to triage patients online, coronavirus

Azure hosted PSJH's chat bot to triage patients online, coronavirus data and analytics, as well as machine learning programs meant to predict influxes of patients and upcoming drains in "precious" supplies like PPE, he said.

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UPMC, a Pittsburgh-based health system with 90,000 employees, 40 hospitals, and 700 outpatient sites, is "promiscuous" when it comes to cloud providers, but leaned on heavily on Microsoft's 365 suite to take many of their workers remote in mid-March, Ed McCallister, UPMC's CIO, said.

For telehealth, one of its main partners is Vidyo, which uses Google Cloud. Meanwhile, UPMC Enterprises, the health system's commercial arm, is using AWS to manage how the system treats coronavirus patients across facilities, he said.

Before the pandemic, technology had played an integral role in caring for patients. Now that's the case even more.

"It's always been important," McCallister said. "I think that it's just been magnified because of the pandemic."

Amwell's technology can be used in hospitals.   Amwell

Big tech stands to win as more care goes online

Providers are strapped for cash right now, and new bets on anything — in cloud, on-premise sites, or other tech — may not be feasible for smaller providers with fewer resources.

Rock Health's Cassels said that health systems are forking up precious funds for telehealth and other basics, but little else. And doctors are still largely beholden to whatever technology their electronic health records are using, he said.

Read more: *Why telehealth won't save hospitals money for a long time, according to Mayo Clinic's technology chief.*

But looking ahead, health leaders expect the bulk of their new projects, like new apps that work with patients, to occur in tandem with the cloud and tech companies' other services. That could include everything from online questionnaires guided by computer algorithms to monitoring patients at home after surgeries.

"If you really want to catch the wave of innovation, these advanced tools of big data and machine learning and artificial intelligence and speech recognition and image processing and all of those, your only choice is the cloud," PSJH's Moore said.

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For instance, Mount Sinai saw a quintupling of daily visits on their cloud-based platform, which deals with everything from appointments to home monitoring, and would've struggled without it during outbreaks, David Kerwar, the chief product officer, said. It's powered in part by communication platform Twilio and hosted on AWS.

The team started working on it in the beginning of 2019 at the behest of the board of trustees, Kerwar said. Now, consumers have a bigger appetite for using it to get care, and hospitals are asking Mount Sinai to license the technology going forward, he said.

"Coronavirus has sped up health systems' and the healthcare consumer's interest in a virtualized care experience, and the need to do that is and will speed up the adoption of cloud in healthcare," Kerwar said.

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- In the midst of the coronavirus pandemic nearly 50 public health leaders have been fired or resigned since April, mostly over mask ordinance disputes.

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