BI PRIME

A Khosla-backed healthcare startup raised $20 million to diagnose heart problems using AI. It just won a crucial approval to help fight the coronavirus.

By Andrew Dunn

- **The California AI startup Caption Health received approval for its software that can help frontline healthcare workers perform heart ultrasounds.**
- **The company, led by CEO Andy Page, previously president of 23andMe, was planning to launch in August. But it believes it can help scan more patients now during the coronavirus crisis.**
- **COVID-19 patients with heart problems suffer worse outcomes, said Dr. Christopher Moore, an emergency physician at Yale New Haven Hospital.**
- **Caption's software makes it easier for nurses and frontline providers to do these heart scans, which can help identify high-risk COVID-19 patients.**

CAPTION HEALTH

Caption Health's software can help guide healthcare workers in conducting heart ultrasounds.

Many people view the coronavirus as an accelerant for business trends that were already happening.

While healthcare has been notoriously slow in adapting to the digital world, the virus has sped up some of the efforts, such as an explosion in telehealth.

The virus also accelerated plans for the artificial-intelligence startup Caption Health. Brisbane, California-based Caption announced this week that its AI software to scan hearts was approved by the US Food and Drug Administration, just 25 days after the company submitted it to US regulators. An earlier version won clearance in February.

The approval allows hospitals to start using the software now in the fight against COVID-19.

CEO Andy Page said eight hospitals – including Northwestern, Yale, and ChristianaCare – are using the software, and he hopes to double that figure by the end of June.

Page joined Caption in 2018, aiming to transition the company from research and development to commercial stage. He previously was president at 23andMe, a personal genetics company, and a C-suite exec at Livongo, a digital health company.

Page said he was anticipating a commercial launch of the software in August, but now plans to do so sooner. The company has about 65 employees and is growing rapidly, he said.

Caption was founded in 2013, and has raised $20 million to date from investors including Khosla Ventures. Page said to "stay tuned" on the funding front, declining to provide more specifics or a current valuation.

Ultrasounds can help identify heart problems in COVID-19 patients

Physicians have noticed that people with heart problems who get infected with the coronavirus seem to fare much worse. And researchers are still figuring out the relationship between COVID-19 and the heart – the disease may cause or exacerbate heart issues in some people.

"It's very clear that patients with pre-existing cardiac problems do more poorly when they have COVID," said Dr. Christopher Moore, an emergency physician at Yale New Haven Hospital. More research is needed to figure out if

Caption Health CEO Andy Page

the disease can cause heart problems on its own, he added.

Moore has no financial ties to Caption Health, but wrote a letter to the FDA supporting approval of the software.

Proactively identifying high-risk patients could help doctors keep closer tabs on them for severe complications. Heart ultrasounds can detect these patients, but also require technical training to administer.

"Ultrasound is a very powerful technology, but it's difficult," Moore said in an interview.

Scanning the heart requires taking several images with an ultrasound, sent by a probe that shoots a beam of sound through the chest. It can be challenging to get good images of the beating heart, especially if the devices aren't used by an experienced operator.

Caption's software allows people without these skills to perform cardiac ultrasounds anyway. STAT reporter Matthew Herper, for instance, chronicled last October his own experience in scanning a heart with the system.

'Like depositing a check in the bank'

The software guides users through each step, using what the company calls prescriptive guidances. When the scanner gets to the right angle at the right time, the software takes over.

"We auto-capture, kind of like depositing a check in the bank," Page said.

For COVID-19, the software could allow frontline nurses and doctors to perform those scans, making them available to more patients.

At the company's holiday party, Page said they had the software available for people to try.

"We found people that have done video games before were quite proficient, because they are used to seeing descriptions on the screen," Page said. "We were able to get people up to speed in literally less than an hour."

Having founded and run a fellowship in ultrasounds at Yale for more than a decade, Moore said he's more enthusiastic about the scans than most doctors.

"The next frontier, which is where Caption Health is, is AI," said Moore. "Using AI both to help people obtain the images and interpret the images."