Google Cloud

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Bringing medical imaging and world-class care to those without access

Physicians at Children's Hospital in Laos can now undertake the most complex diagnostic consultations, in real time, with experts around the world—providing a level of care previously unimaginable.

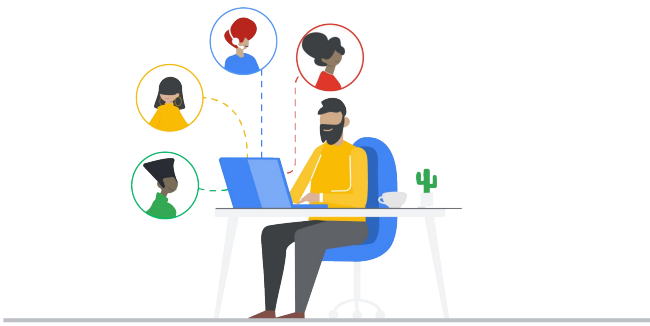
Ambra Health

Ambra Health is a medical data and image management cloud software company committed to delivering better care through better technology, right at the heart of the care network.

When patients in large metropolitan areas fall ill, they can visit their nearby hospital to consult directly with experts. Their doctors, using advanced equipment conveniently located down the hall, can work quickly to identify the ailment and prescribe treatments. But for patients in remote areas, the nearest trained medical expert, and the equipment necessary to make a diagnosis, may be oceans away. Inspired to address this urgent lack of access, Ambra Health joined forces with RAD-AID, a global group of radiologist visionaries, and Google Cloud to build a digital radiology system for caregivers at the Lao Friends Children's Hospital. Their efforts would bring advanced imaging to vulnerable patients who might otherwise never experience its benefits.

Laying the groundwork for real-time collaboration

In healthcare, outdated infrastructure has long been an accepted fact of life. "If something's kind of working, there's often a hesitation to upend the applecart," explains Morris Panner, CEO of Ambra Health. When "there's always something more urgent to do," innovation takes a backseat to doing no harm. But with the advent of cloud computing, "healthcare is now starting to realize the promise of the kind of virtualization that some other industries have already gone through."



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While medical radiology's evolution from physical pictures to the picture archiving and communication system (PACS) digital platform helped doctors access stored images through digital viewers, the cloud is now making medical images accessible outside hospital walls, even in far corners of the world. "If you take the digital-platform capabilities of the extraordinary machines that look inside human bodies and you marry that up with cloud and Internet, all of a sudden you get something that the world has never really seen before," Panner says. Solutions built on cloud architecture make it possible to not only manage the huge amounts of data that imaging generates, but also to optimize workflows and enable collaboration that "really starts to save lives."

Building a healthy future for children in Laos

Using cloud capabilities to increase access for underserved patients is a calling that Panner takes seriously. "One of the ways you prove to the world that you're serious about healthcare is to start to do the right thing," he says. "Healthcare is a business where people are in it for the right reasons, and I've never actually met a healthcare professional who ultimately didn't want to help somebody." When the RAD-AID team conducted an assessment of the Lao Friends Children's Hospital, they found a professionally run, friendly organization that unfortunately lacked crucial assets like operational radiology equipment and personnel trained to use it, safety protocols, and digital radiology networks.

"As a parent, probably the most impactful thing you can do with your day is to think about somebody who has a sick child and think about how they feel if they can't get the care that they need," Panner says. No parent likes hearing that their child's physician doesn't know what's wrong. In those cases, "you just wish you could get to that person who maybe had seen that case before." To supplement care with capabilities they didn't have in-house, the hospital needed "to be part of a network," Panner says. So the solution team found a way to give them "phone a friend" capability.

Morris Panner,
CEO, Ambra Health

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At the hospital, the team didn't have a lot of physical space to maneuver. "We took something that ordinarily would take a giant server farm for most hospitals of this size, and reduced it to the bare minimum onsite footprint," Panner explains. By using the cloud to capture digital data, the partnership could provide the hospital with a supercharged digital radiology solution. "We worked with a company called Tribalco, which provides hardened military servers," says Panner. "Those few onsite servers needed to be extremely durable and to be able to weather a lot of the difficulties in tough conditions, the way the military experiences."

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Panner marvels at how quickly the team was able to move. “It was no surprise to our friends at GCP,” Panner recalls. “They spin up servers like you wouldn't believe, and a lot of people here thought, ‘You gotta be kidding me—in five days you're going to take us from nothing to a fully operational system? And that's exactly what happened.” After migrating studies and data to the new system, the team trained 30 doctors, nurses, and technologists. “RAD-AID, the whole team working together, created a fully functional PACS bridge that is now supporting full-time care to those kids and to their families,” Panner reports.

Changing the world, one village at a time

This solution is already making a difference in Laos, and, according to Panner, it demonstrates “how powerfully these partnerships work in bringing these capabilities together.” Google Cloud provides the horizontal services, Ambra Health delivers deep technical knowledge, and RAD-AID contributes training and high-end technical capability from physicians all over the world. The team created a virtual environment that lets local clinicians collaborate with volunteers who are located in the United States, but could really be anywhere in the world. “Nothing else could match that kind of team environment. It's transformative. We are a care team functioning as if we were there," Panner declares.

“For any kind of global health challenge, you'll see that when you have access to very powerful medical imaging across many different domains, it's incredibly powerful,” Panner says. The vast amounts of data the cloud can store and analyze, while protecting patient confidentiality, will enable new research initiatives. “There's never been a more powerful time to take these different data types and realize the promise of a really intelligent healthcare system,” he concludes. Collaborative systems, which increase access to medical and scientific talent across geographies, will bring life-saving diagnoses and treatments to patients who need it most, no matter where they are afflicted.

Morris Panner,
CEO, Ambra Health

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