

# How to Enable Patient-Centered Healthcare Innovations with the Cloud



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**Laurent Rotival**  
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of Technology Solutions  
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Cambia Health Solutions

What if a mother, whose child had an ear infection, could use an at-home, internet-connected digital otoscope to send an image of her child’s eardrum to the physician? And then receive a diagnosis and prescription without leaving home?

What if a healthcare provider could use predictive analytics to identify patients at risk of falls at home? And use that information to help case managers intervene in ways that reduced the risk before a fall occurred?

Patient-centered healthcare innovations like these may sound far off, but they are not. Portland-based Cambia Health Solutions is leveraging the cloud to pilot use cases like these that put the patient at the center of healthcare. “Cambia is focused on providing solutions far beyond the traditional role of a payer,” said Laurent Rotival, Senior Vice President of Technology Solutions and CIO. “We believe what consumers need are fully integrated solutions – including payer, provider and pharmacy solutions – designed around the consumer. Our goal is to make those integrated solutions a reality.”

Achieving that goal has become much easier since Cambia transitioned from a portfolio of on-premise technologies and applications to the cloud. “Cloud-based technologies and Amazon Web Services (AWS), in particular, are real game changers in the healthcare industry,” he said. “The industry is tremendously complex. That can make the consumer’s experience difficult and prevent industry stakeholders from working together in a simple, coordinated and innovative way. AWS and the cloud gives us an opportunity to minimize, if not eliminate, those boundaries.”



## 1. The perfect place to experiment

“I’ve been in this industry for a long time and there is no lack of healthcare best practices when it comes to clinical workflows, population health management, analytics and the like,” Rotival said. “The problem is, most of these best practices are stuck within the highly customized legacy environments of the institutions that developed them. They’re extremely difficult to replicate and port to another institution.”

Cambia, on the other hand, is able to leverage the technological flexibility, pay-as-you-go model and scalability of AWS to support a lean, start-up approach to innovation. “We try to put minimally viable use cases in the hands of consumers as quickly as possible, so that we can receive feedback and optimize those use cases,” he said. “With AWS we can implement, modify and enhance solutions quickly and cost-effectively. Without AWS, the speed required to iterate to innovate would be impossible.”

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## 2. Making it easy to connect with patients and other healthcare partners

AWS offers all the building blocks needed to create any type of healthcare solution. That means everything from core services, like compute and storage, to managed services, including services that make it easy to connect with consumers by simplifying the delivery of mobile applications and Internet of Things (IoT) applications. For example, the digital, internet-connected otoscope, described earlier, exists today and was created by Cambia partner, Tyto Care, using a cloud-based platform to deliver services.

Cambia itself comprises more than 20 distinct companies, including start-ups and spin-offs of the company’s internal innovation efforts. “Each company has a compelling standalone value proposition within the segment of care they’re seeking to serve,” said Rotival. Cambia’s vision has been to seamlessly connect consumers to the breadth of solutions provided by these diverse companies while keeping the individual companies intact. “Before we turned to AWS, it was difficult for us to manage the collaboration of the individual companies to produce a high-value, integrated experience for consumers,” he said. “But the advantage of using AWS was the flexibility to deploy our infrastructure in a customized way to solve that problem.”



## 3. Enabling effective, innovative big data usage

Cambia, like many healthcare organizations, previously used analytics primarily as an after-the-fact tool to analyze past performance. “We’ve now shifted our focus to putting analytics – particularly personal, predictive analytics – at the center of everything we do,” he said. Hence, the use case described earlier, where case managers have access to dashboards with predictive analytics that help them anticipate potentially catastrophic events – like a high risk for falls – and intervene to minimize risk.

AWS’s suite of analytics services, including a managed Big Data platform and services for machine learning, facilitate this kind of patient-centered, predictive analytics focus. “Our ability to be able to capture that data, to aggregate it around a single unique profile and to be able to use that information to customize and personalize the services we provide, is vitally important,” said Rotival. “Today, it’s a differentiator and an innovation, but it won’t take much more time before this becomes an expectation and a requirement to be able to play in the industry.”



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