Faster results.
Peace of mind.
QMP and autonomous technologies are transforming healthcare.

THE BEST MEDICINE

BY DAVID BAUM AND ED BAUM
PHOTOGRAPHY BY PAUL S. HOWELL

QMP CEO Michael Morales (left) and Chief Financial and Strategy Officer Brodie Flanders

Bigger isn't always better in business. Thanks to today's digital business models, small companies can often out-innovate larger firms, and the biggest company doesn't necessarily become the market leader. For example, in the healthcare sector, Quality Metrics Partners (QMP) flipped the conventional notion of scale on its head by using autonomous database technology to out-flank its competitors—and disrupt an entire industry. Like many upstarts in today's data-driven healthcare environment, QMP has learned a critical secret: companies that figure out how to manage their data effectively can turn speculative ventures into global opportunities.

Initially, company leaders at QMP built their diagnostic testing business the old-fashioned way: by establishing a handful of laboratories to deliver traditional services such as diagnostic screening, medication monitoring, pharmacogenomics (how genes affect responses to drugs), and molecular pathogen testing. As

SNAPSHOT

QUALITY METRICS PARTNERS
qualitymetricspartners.com

Location: Dallas, Texas

Industry: Healthcare IT

Revenue: US$60 million in 2017

Employees: 200

Oracle products and services: Oracle Autonomous Data Warehouse Cloud, Oracle Autonomous Database Cloud, Oracle Analytics Cloud, Oracle Database Cloud Service, Oracle Data Integration Cloud

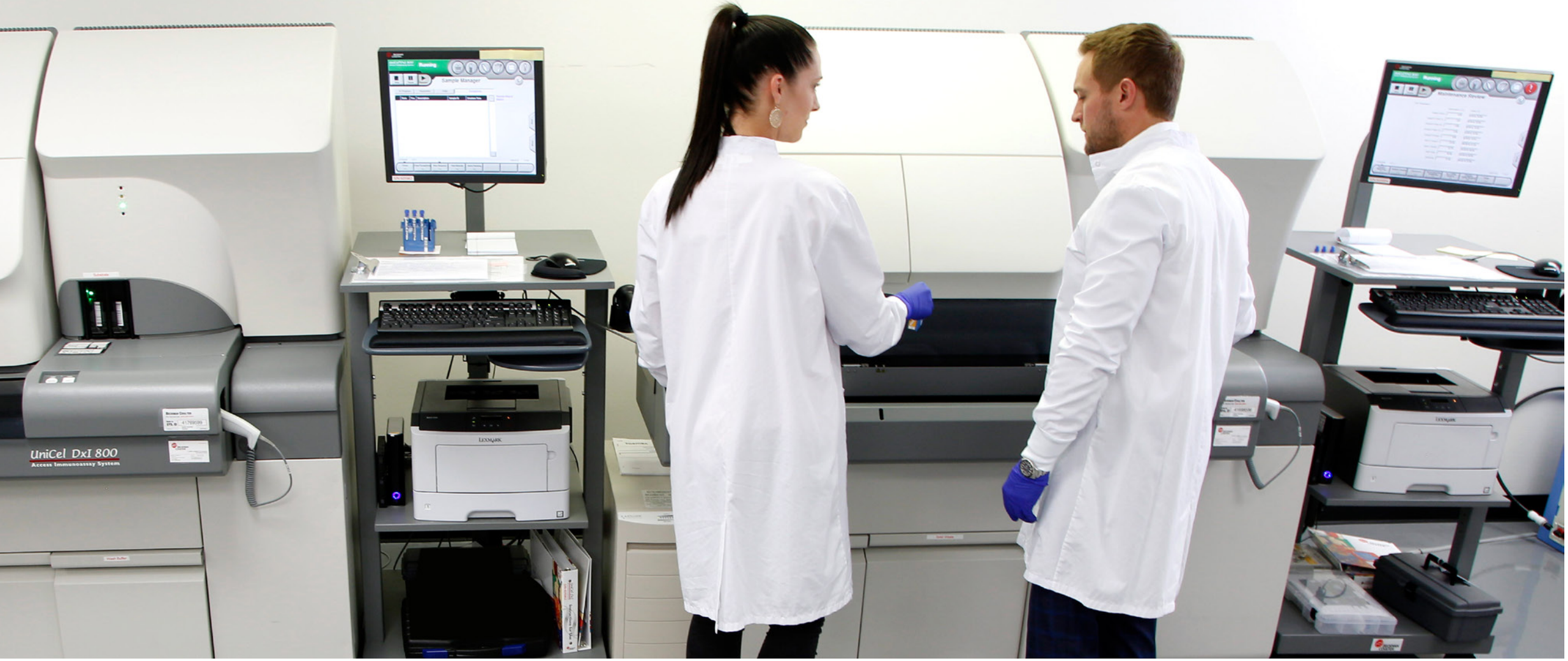
MICHAEL MORALES

CEO and Founder

Length of tenure: Four years

Education: BS in preprofessional studies, minor in anthropology, University of Notre Dame; post-baccalaureate studies in medical sciences and business, University of Texas at Arlington

Personal quote/mantra:
"Our ability to improve healthcare is within our blood. It's up to us to do something about it."



comfort with analytics grew, QMP began offering analytic services to hospitals, clinics, and other laboratories, which collectively serve hundreds of thousands of patients throughout the US. The turning point came when QMP CEO Michael Morales realized that his company could extract more value by analyzing deidentified patient data in aggregate than it could from processing individual lab results.

QMP built a healthcare technology platform called CAREiQ using Oracle Autonomous Data Warehouse Cloud, a turnkey cloud service built on self-driving, self-tuning, self-securing database technology. This unique cloud database uses AI to improve security, reliability, and performance—and to continually learn from its environment. Leveraging this technology, the CAREiQ platform has allowed QMP to scale seamlessly and grow much faster than its competitors. Autonomous technology from Oracle vastly improves QMP's foundational mission of providing excellent care for patients—and better insights to the providers who serve them.

QMP has been able to scale seamlessly with CAREiQ, its new healthcare technology platform built using Oracle Autonomous Data Warehouse Cloud.

> Thanks to autonomous tools from Oracle, managing aggregate data became an important facet to our business, along with managing individual patient results.
>
> —Michael Morales, CEO and Founder, Quality Metrics Partners

"We realized that offering a healthcare technology PaaS could open the doors for us to expand our operations," Morales says. "Thanks to autonomous tools from Oracle, managing aggregate data became an important facet to our business, along with managing individual patient results. With our Oracle-based CAREiQ platform, we have reduced the turnaround time for delivering lab results from two weeks to 48 hours, and often to same-day results," Morales adds. "That is a key factor in staying competitive in the market. And it can be a life-or-death situation for patients with disease states that require fast diagnosis."

QMP created a laboratory management company called ManaCare Health to better serve and manage laboratories across the country. Part of the management services consisted of delivering healthcare technology beyond the initial QMP business umbrella. According to Steve Chamberlin, chief information officer at QMP, Oracle Autonomous Data Warehouse Cloud has modernized QMP's analytic processes to enable an entirely new service model—and to grow much more quickly than before.

"Previously, many manual processes were required to model and structure data so we could obtain insight from it," he says. "That meant we had to constantly allocate more resources to support BI as the business expanded. Now Oracle Autonomous Data Warehouse Cloud does all that for us. Instead of waiting weeks or months for internal teams to get to the point where they can analyze data to make decisions, we can literally do it within minutes."

A TRANSFORMATION IN INFORMATION MANAGEMENT

Intelligent autonomous systems are quickly taking hold in many industries, driving paradigm shifts in systems design, logistics, manufacturing, infrastructure, and more. Because Oracle's autonomous data management systems are based on adaptive machine-learning technology, they can scale elastically and are quick to deploy. "Oracle Autonomous Data

Warehouse Cloud is perfect for small and midsize businesses," says Çetin Özbütün, senior vice president of database server technologies at Oracle. "New customers can deploy a data warehouse in minutes and obtain analytic results very quickly. Thanks to Oracle's cloud-based analytics tools, business users can gain insights from the data almost instantly."

According to Özbütün, cloud strategies have helped many organizations solve provisioning and scalability issues as they roll out new data marts, enterprise data warehouses, and analytic systems. But even with a cloud-based approach, DBAs still need to keep these assets running efficiently. Özbütün says most DBAs

CEO Michael Morales (left) and CIO Steve Chamberlin at the QMP headquarters in Dallas, Texas

still spend nearly 70% of their time maintaining information systems, rather than focusing on innovation. Oracle's autonomous database technology automates the routine administrative tasks that DBAs have to deal with on a day-to-day basis, such as patching, updating, doing backups, and applying security patches. "That means these IT professionals have more time to focus on obtaining insights from the data," he says.

QMP is taking advantage of that opportunity to reallocate its skilled technical resources. "With Oracle Autonomous Database Cloud, regulating business intelligence systems is no longer an issue," Morales confirms. "All management tasks are fully automated, including all database-tuning chores—which has allowed our DBAs to level up in value. Because they don't need to constantly manage the database management system, they can focus on new projects that utilize emerging technologies such as artificial intelligence and blockchain."

The ability to obtain insights from healthcare data is essential in today's era of value-based care. Increasingly, payments are linked to quality measures, and providers are rewarded according to patient outcomes rather than the quantity of services delivered. The Centers for Medicare and Medicaid Services (CMS) developed the Five-Star Quality Rating System to hold insurance companies and health plans accountable for quality according to dozens of evidence-based metrics. Among

PUTTING DATA MANAGEMENT ON AUTOPILOT

Autonomous database technology offers an easy path to enterprise-grade analytics, enabling small firms to scale quickly and establish new business models—and even to compete against large companies that have spent years creating and refining their data management processes.

QMP depends on the intelligent capabilities of Oracle Autonomous Data Warehouse Cloud to deliver analytics services to its clients. Its DBAs are able to spend less time on mundane data management tasks due to the following standard capabilities:

Self-driving. Thanks to adaptive machine-learning algorithms, the database can automatically tune itself—allowing users to submit queries, visualize data, and share results without devoting time to data management tasks.

Self-securing. The system patches itself automatically to avoid human errors or omissions. It automatically applies the latest security patches, reducing the risk of vulnerability and minimizing application downtime.

Self-repairing. Oracle Autonomous Database Cloud automatically recovers from any physical failures—at both the server and data center levels. In addition, by applying software updates in a rolling fashion across multiple nodes within a cluster, it ensures that applications remain online.

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other measures, healthcare providers are rated based on their covered population's compliance with preventive services such as health screenings, vaccines, and chronic disease management. Healthcare providers must identify health plan members who have chronic conditions and make sure they are getting the necessary treatment. They must also help members fulfill annual screening objectives, as recommended by the US Preventive Services Task Force.

These screenings form the backbone of the services offered by QMP and other labs—and have a direct impact on the reimbursements and bonuses that CMS awards to insurance companies and health plans. However, many of QMP's competitors curtailed their diagnostics offerings or dropped out of the business altogether because they lacked the technology to obtain the analytical insights that are so important to these value-based healthcare strategies.

In healthcare, data comes from many sources, including electronic medical records (EMRs), laboratory information systems, billing software, laboratory machines and devices, ERP systems, and CRM systems. One of the big challenges for smaller businesses in this field involves finding a way to collect that data into a single platform, and then analyze it fast enough to deliver real value. "It's very difficult for a new player to enter the market," Morales explains. "Oracle's autonomous technology allows us to unify a vast amount of data on a self-tuning platform."

REDUCING COSTS, IMPROVING CARE

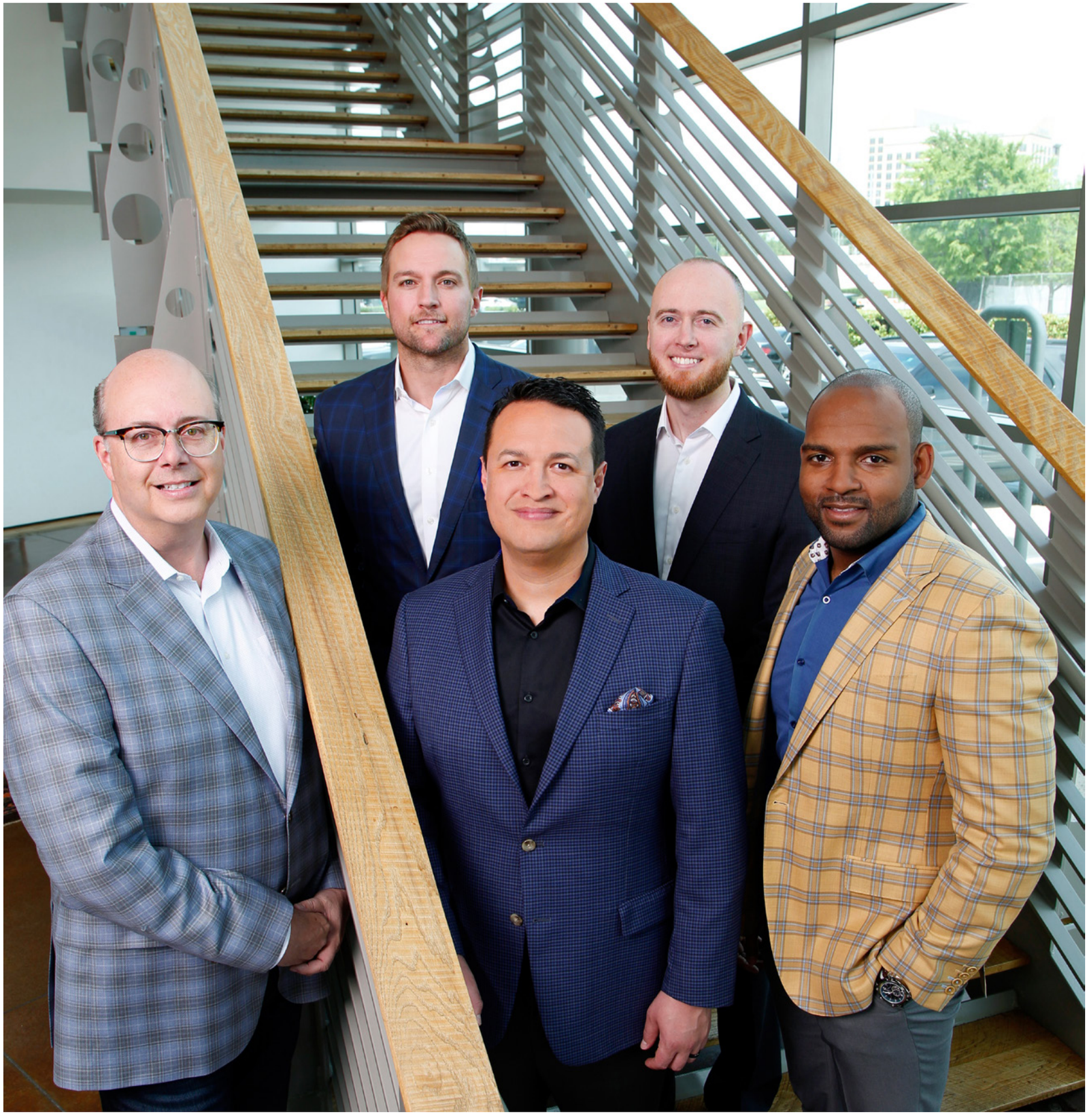
The QMP platform not only facilitates faster lab results delivery, it also helps physicians discover patterns in the data that can assist with their diagnoses and their detection of disease markers beyond what they were initially looking for. "We take it beyond merely helping them be profitable in the lab space; we use artificial intelligence and big data analytics to help doctors diagnose patients," Morales adds. "Reports from our platform can help physi-

cians detect things they may not have recognized."

Similarly, on the administrative side, partner labs look to QMP's analytics platform to control spending and minimize costs. "For example, we can take a lab's financial data and deidentified patient data and target the top five inefficiencies that the lab experiences," explains Morales. "Nine times out of 10, leaders at these lab companies have never even thought of what we show them. It is a wake-up call for CEOs."

FOLLOW THE DATA— TO THE CLOUD

Data is increasingly considered to be one of the top assets for rapidly growing companies, yet many small-to-medium businesses (SMBs) struggle to manage it effectively. An abundance of information should be a valuable resource, but it can become an



The QMP team (left to right): Steve Chamberlin, Brodie Flanders, Michael Morales, Dustin Minter, and Keith Gray

insurmountable challenge, especially to companies that lack the skills to properly gather, store, and analyze that data. When working with analytics, a sudden increase in workload, a new business model, or a new line of business can trigger a need to add computing capacity fast. For small organizations with limited resources, that can be a serious challenge.

Some healthcare companies look to their hosting service providers for assistance. But Chamberlin says Oracle's new autonomous solutions eclipse such strategies. "When I ask CEOs and CIOs about the level of service they receive from hosting providers, they typically list about 4 out of 10 features compared to what the Oracle solution provides," he explains. "With Oracle's comprehensive end-to-end processes and solid security procedures, it's usually not even a fair comparison. Leveraging Oracle Autonomous Data Warehouse Cloud, we can offer them immediate value at about half the cost."

This prospect is particularly appealing to labs and other SMBs in the healthcare arena, which strive to provide the best possible care for patients without getting mired in technology issues—such as making sure their processes comply with HIPAA security provisions. Oracle provides a secure environment that uses encryption and other advanced database security technologies to satisfy all HIPAA regulations. In addition, the Oracle data centers where cloud-based healthcare data is stored are subject to frequent and rigorous security audits.

Finally, Oracle offers cloud-based integration technology to combine data from multiple information systems. "Since business and clinical decisions are based on the data we receive, we need to gather it from EMR systems, billing software, lab information systems, and internal processes," Morales notes. "The biggest challenge in the current market is that these datasources are siloed. Oracle Autonomous Database Cloud allows us to put all this data onto a single platform. It literally takes minutes to run reports rather than waiting weeks or even months for internal teams to manually calculate what we need."

Morales believes that labs that are not using autonomous database management and analytic technology will find it progressively more difficult to compete. "The insurance market and reimbursement structures change almost daily," he concludes. "The ability to track it all is literally what allows laboratories to stay in business. In our case, the more refined our systems and processes are, the faster we can grow. We are now in markets where we compete with billion-dollar companies, and we are able to make it work." □

David Baum and Ed Baum are freelance writers focused on the transformative impact of emerging technologies.

ACTION ITEMS

- Try Oracle Autonomous Database Cloud for free and get started with up to 3,500 hours.
- View "The Future Is Autonomous."