

# Timing is Everything

Spurred on by the health reform in the United States, the Kaweah Delta Medical Center in California has launched a powerful new IT tool to support its initiatives for improving care.

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Kaweah Delta Medical Center resides in the heart of California's sprawling Central Valley, the most productive agricultural region in the United States. Fields of corn and other produce, vineyards, orchards, cattle ranches, and dairy farms stretch for miles in all directions. "I tell people that there are more cows in the county than people, which happens to be true," says Dave Gravender, the medical center's Chief Information Officer. So it's only appropriate that when Kaweah Delta created a new team dedicated to ensuring optimal healthcare delivery, they dubbed them "the wranglers" – a term used to describe ranch hands who herd cattle on horseback.

## Saddling Up the Wranglers

The story of the wranglers began almost three years ago with a brainstorm. At the time, Kaweah Delta was already using the Soarian® workflow engine to track its clinical processes. Gravender's idea was to use the engine in a novel way – not only to monitor clinical metrics but also to send out reminders or alerts to the medical staff when something that was supposed to happen didn't.

"The new value-based purchasing regulations that are part of healthcare reform tie Medicare payments to per-

formance on specific core measures," explains Gravender. "I realized that Siemens is placed to make a big difference here, by helping its clients become top performers."

Gravender likens the idea of reminders and alerts to seat belt warnings in cars. "Most days I click on my seatbelt once I'm out of the driveway. But sometimes I get distracted and forget. After about 20 or 30 seconds, the seatbelt warning goes off to remind me. That's what we wanted to create for our medical staff."

In 2011, Gravender and teams from Kaweah Delta began working closely with Siemens consultants to develop the new tool, mapping out alerts based on core measures identified by the Centers for Medicare & Medicaid Services (CMS) as part of its Value-Based Purchasing (VBP) program. They needed better visibility to VBP performance metrics. In addition, they wanted to leverage the Soarian workflow engine to support initiatives for improving clinical quality and patient satisfaction.

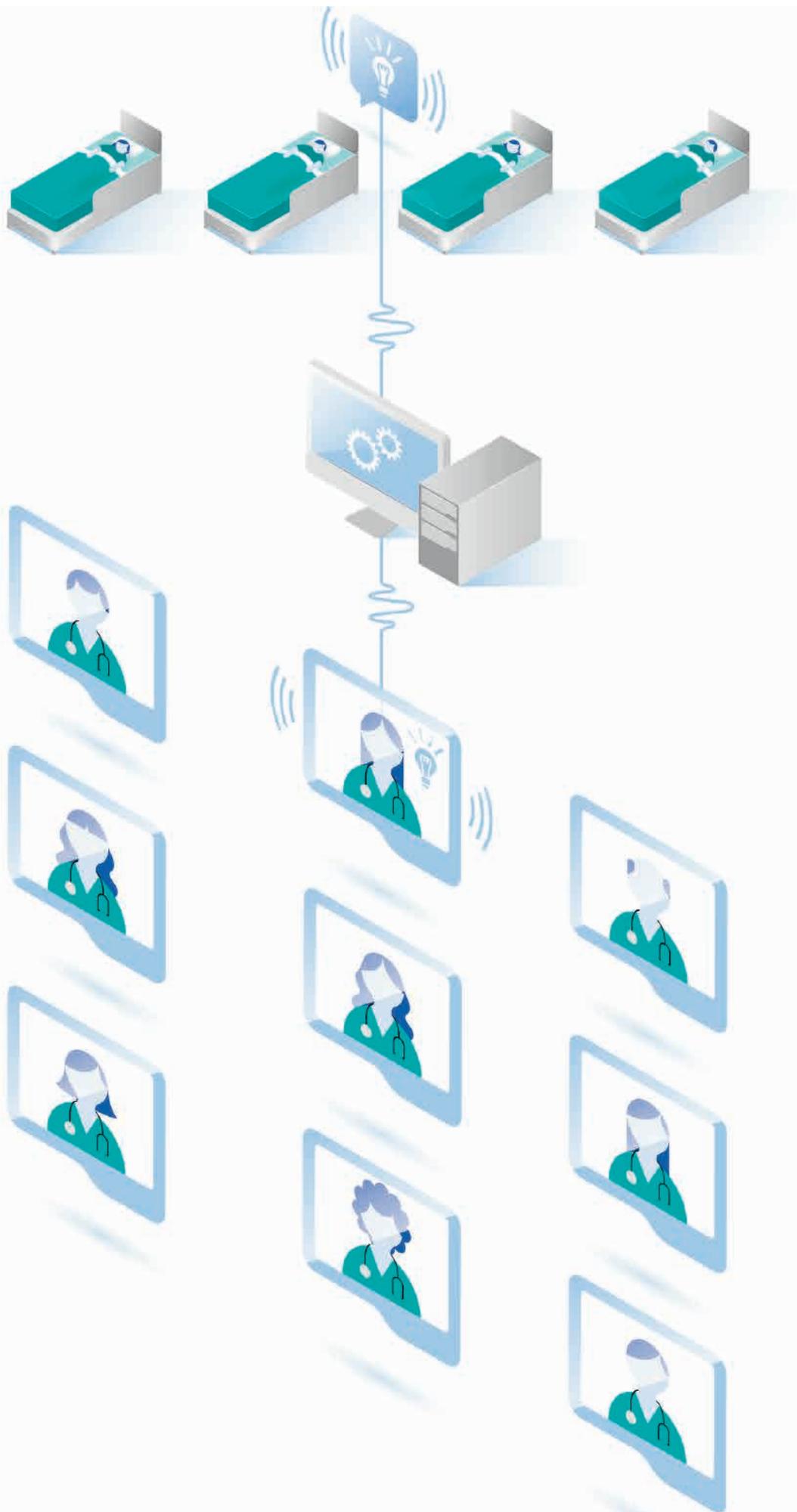
The effort focused on four conditions: acute myocardial infarction, pneumonia, heart failure, and surgical care improvement program. The first objective was to recognize key indicators – specific prescription drugs or lab test results, for instance – that signal when

a patient has one of these targeted conditions. The second objective was to send out reminders or alerts if a key step in the clinical process has been neglected or delayed. The project team developed workflows that addressed the specific requirements of these objectives.

## Individualized Design

Right from the start, the project proved more challenging than expected. "The fact is, we're talking about clinical processes in medicine that are far more complex than buckling a seatbelt," Gravender explains. One challenge was taking Soarian workflows, which include several that address VBP performance measures, and tweaking them to fit Kaweah Delta's unique ways of delivering quality care. Every medical center uses its own formulary of prescription drugs, for example, and follows its own clinical procedures. These characteristics had to be designed into the system, with physicians participating in all the design groups.

But by far the biggest challenge was determining exactly when the reminders and alerts should fire – and who should get them. "Most of the time the medical team does exactly what it's supposed to do," explains Mark Garfield, MD, Kaweah Delta's Chief Medical Officer. "What we wanted was a fail- ▶



safe system that would alert our staff if something fell through the cracks. But if you send the alert too soon, there are a lot of unnecessary alerts and people start to ignore them. If you fire the alerts too late, there may not be enough time to get something done in the time frame required."

Deciding who should receive the alerts also posed a challenge. "We started with the physician and the bedside nurse, which seemed to make sense," recalls Gravender. "But that didn't

work very well for us. No one works 24/7. Some of our medical staff may only come into the hospital every other day. It doesn't help to send an alert about something that needs to be done within 24 hours to a physician or nurse who isn't coming in for a day or two."

Instead, the medical center decided to create a dedicated team of nurse practitioners who would receive the reminders and alerts and make sure they reached the right person in a

timely fashion. "In a very real sense, the nurse practitioners wrangle the herd along to make sure that what needs to be done gets done," says Gravender. "So along the way they became known as 'the wranglers.'"

## The Wranglers in Action

The nurse practitioners on the wranglers team ended up playing a key role in designing and testing the new system – fine-tuning it so that the reminders and alerts triggered when they would be most useful. "In some cases we had to go through different designs to tweak it to fit our environment," says Christi Robertson, the project lead.

A day in the life of any hospital is hectic. "Things come at you from all directions," explains Rhonda McMillan, ISS Director of Applications. "Any system that can make the job easier is great. But we had to make sure the alerts and reminders were meaningful and that they didn't get in the way rather than help." More often than not, the tweaking process involved reducing the number of reminders and alerts to only those that were necessary to improve outcome.

"The alert prompts us to investigate the patient chart and identifies missing items," says wrangler Mary Staton. Sometimes the nurse practitioners on the team, who have prescribing authority, can respond directly. Or they may need to alert a physician or bedside nurse.

Earlier this year, the reminders and alerts for acute myocardial infarction and surgical care improvement went live. The tools for pneumonia and heart failure should be up and running within the year.

Already, the wranglers say, the system has triggered alerts for core measures that might otherwise have been overlooked or delayed. That almost certainly has improved patient care and outcomes. In practice, the system promises to help Kaweah Delta speed recovery, reduce the risk of complications, and lower rates of readmission. "After three years of hard work on this," says Staton, "believe me, that puts a smile on my face."

*"Siemens is placed to make a big difference by helping its clients become top performers."*

**David Gravender**, Chief Information Officer,  
Kaweah Delta Medical Center, USA



*“We’re convinced the new alert system will help us meet the challenge of value-based purchasing.”*

**Dr. Mark Garfield**, Chief Medical Officer,  
Kaweah Delta Medical Center, USA

## Dollars and Good Sense

The new tool also promises to help improve Kaweah Delta’s financial health. Starting in 2012, CMS began penalizing medical centers that fall short on a selected list of core measures and rewarding those that perform especially well. “For the current year under Value Based Purchasing, we have about US\$ 1.25 million that could potentially be withheld and another US\$ 1.25 million we could receive, or a total of US\$ 2.5 million,” says Kaweah’s CMO Garfield. “That’s a significant part of our bottom line. We’re convinced the new alert system will help us meet the challenge of value-based purchasing.”

Once the workflow reminders for pneumonia and heart failure patients are launched, Garfield hopes to move on to other health concerns. “I think there’s a great potential here for many medical conditions where we have identified clinical processes of care that clearly improve outcomes,” he says. One condition he hopes to address in the future is diabetes, which affects many of the medical center’s patient population.

Working with Siemens, Kaweah’s team is also getting ready to launch a reporting system that will allow them to see how well the workflow reminders and alerts are working in real time. “The goal is immediate feedback,” says Gravender. “How are we doing? What alerts are

being ignored because they aren’t relevant? Which ones are being acted on? How can we do better?”

The enthusiasm at Kaweah Delta is palpable. So is the urgency. “For those of us in healthcare IT, it’s the best of times and the worst of times,” says Gravender. “IT can provide solutions to many of the problems in healthcare today. But it’s hard work. And it takes more time than people realize to get it right. Working with Siemens, we’re blazing a trail that will make it easier for everyone else. When I say blazing a trail, I mean using a machete to cut a path through the jungle. But the pay-off will be huge. We’re learning lessons along the way that will help everyone.”

The result will be better clinical processes, decision making, and documentation. With more accessible patient information, Kaweah Delta can improve performance on core

measures – increasing reimbursement dollars and saving millions each year. “But in the end it’s about the patient,” says Gravender. “The goal is to develop tools that help us ensure that patients get the very best care we can give them.” ■

**Peter Jaret** is a freelance writer based in Petaluma, California. He is a frequent contributor to *The New York Times*, *Health*, *Reader’s Digest*, and numerous other publications.

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