Creating a ‘Guiding Light’ Form to Coordinate HTM and IT Projects

Given the breadth of UCHealth—the University of Colorado Health System—organizing a day-to-day healthcare technology management (HTM) and information technology (IT) operation posed formidable challenges, particularly in terms of coordinating complex projects.

Like many other healthcare delivery organizations (HDOs) in the United States, UCHealth is growing rapidly, sometimes by building new facilities but often by acquiring previously independent ones. The reach of UCHealth spreads from Colorado Springs, to the University of Colorado Hospital, and finally to the system’s more sprawling North Region, which includes Poudre Valley Medical Center, Medical Center of the Rockies, Longs Peak Hospital, and the newly added Yampa Valley Medical Center.

At UCHealth, the relationship between HTM, in this case the Clinical Engineering (CE) Department, and IT is well defined. CE is organized as a corporate, HDO-level department within IT. Within the vast UCHealth system, each of its three regions contains two CE managers: 1) an operations manager, who manages staff and daily operations, and 2) a vendor services manager, who concentrates on contracts and services from vendors (e.g., for imaging equipment). Each CE manager reports to the corporate director of CE, who reports to an IT-based vice president.

“IT is close to us. A lot of their stuff touches our equipment, and we work side by side,” said Ryan Titus, CE manager for UCHealth’s South Region in Colorado Springs, CO.

In 2012, UCHealth underwent a major expansion that pushed the coordination between HTM and IT teams to a breaking point. With the tidewaters changing rapidly, HTM and IT would have to learn to work together as a united front like never before.

Challenge

In October 2012, UCHealth was in the midst of change. Healthcare systems in the northern region of Colorado were joining together with the UCHealth HDO, a system that historically was located in the Denver metro area. Earlier that year, UCHealth also bid to acquire Memorial Hospital, located in Colorado Springs.

“These all were large organizations on their own. With everything coming together and joining—as you could imagine, there were a lot of pain points that came with that growth, particularly for clinical engineering,” Titus said. “A lot of people lost their one-on-one connections with others.”

While unintentional, the changes that came with this fusion of three systems meant that picking up the phone and knowing whom to call when there was a CE or IT issue was no longer straightforward. Although CE continued to work closely with IT’s ancillary operations team as they had before, changes in the HDO’s structure resulted in confusion about which department to call, or even who was responsible for what—a big problem when, for example, a patient is lying on a table and a physician loses telemetry data.

When users contacted the IT help desk with patient monitoring issues or other problems, no standard process existed for which teams should be notified—and at what point. That led to ongoing issues in resolving concerns related to patient monitoring device requests, troubleshooting, and identifying the right resources for the job.

“We were finding that both of our teams were getting notified about projects at the same time and literally at the last minute, when projects were going live,” said Margaret Schaeffer, patient monitor device integration analyst for UCHealth’s North Region. “There were times when the clinical engineers and myself would get calls that would say, ‘OK, we’re going live on Monday with this new unit.
of 20 monitors. Do you all have everything ready to go? That would be the first we'd heard of it!"

Sometimes, the project would have to be held up because of the work that needed to be done in the interim, creating confusion and further delays. At the end of the day, CE and the IT department's ancillary operations team were flying blind. No matter how hard they flapped their wings, moving in one concerted direction was not possible.

“We needed to know who's doing what, when, and if you need to ask somebody a question on that team, you know whom to contact,” Schaeffer said. “Just the basic information.”

In addition to differences in corporate culture inherent in any combination of previously separate HDOs, the initial ramp-up and growth for UCH Health led its CE teams to feel stretched over the wider area. Combined with resources not being pulled in in the proper time frame for projects, the UC staff reached a critical point.

“We essentially said, ‘Hold up. This has got to change. We can’t operate it like this,’” Titus said.

UCH Health’s HTM and IT teams needed a guiding light. As it turned out, they would find it in a PDF document in the cloud.

Solution
Resolving coordination issues between IT and CE came in two parts. First, UCH Health formed a project team to bring together all stakeholders. The project team included representatives from IT (ancillary operations, device integration support, and desktop support), CE, the electronic health record (EHR) vendor (Epic), and some of the users from hospital units who worked with monitoring devices.

From that meeting, CE and IT developed a simple, easy-to-use electronic template form (Appendix 1 in the data supplement [available online at http://aami-bit.org]). Using input from each representative, the interactive PDF template includes the specific duties that each team is expected to accomplish for a given project, as well as designations for a support call or project request. For each device support issue or approved project request, each resource team is expected to locate the appropriate process form on the cloud-based resource-sharing site (SharePoint) for the work being done.

Each team representative completes the steps required to resolve its piece of the project or problem, then signs off electronically that the work has been completed. The process continues, with each work item being checked off until the project is completed or the problem is resolved.

“This document is not intended to be the ‘be-all and end-all.’ It’s meant to indicate clearly what the project is, as a high-level overview,” Titus said. “For example, I wrote one up recently that said, ‘We’re going to replace four monitors that will be integrated with our EHR in a GI lab.’ That simple communication—not even naming the individuals but just indicating the teams—really helps to kick off that kind of project.”

By clearly stating what the project is and both who and what is needed to complete it, even from a 10,000-foot view, the CE-IT team was able to break the ice and begin pulling together the necessary resources.

“In the past, it was almost a hodgepodge of phone calls and emails—and hopefully you knew who to contact. With this document, because the ownership was with all those different teams that are typically involved, there’s more of a sense of ownership from each team,” Titus said.

After the template is filled out, it’s included within the IT ticket system, where tasks are assigned to proper teams. When the project begins, that same document is brought out as an overview during the kickoff meeting and during subsequent check-ins to ensure resources are being used appropriately.

Although it’s true that as the project progresses, reality will gradually drift away from the starting point that the document spelled out. That’s OK, said Titus. The purpose of the document is to ensure that everyone starts off on the same foot. From that point, the project is free to sprint, rather than stumble, toward its conclusion.
Results
Creating one PDF document to kick off a specific type of CE or IT project successfully reduced confusion at the onset. Today, all resource teams at UCHealth know exactly who is responsible for that team’s work, as well as what the team should accomplish before signing off for the next team to begin its segment of the project. In addition, for every project request or issue, everyone knows who the point of contact is. CE and IT projects now move forward smoothly and are finished in a more timely manner. No longer are project managers bombarded by a jumble of questions about a project.

“It was hard to get other teams to participate in a project to the extent that was needed. By identifying everyone upfront, at a high level, we then all know who has to do what, and there’s much more buy-in,” Schaeffer said. “We don’t have big surprises anymore.”

Initially, some teams provided feedback that they wanted more detailed information on the form. However, explained Titus, the purpose isn’t to provide fine detail. Rather, it’s a high-level overview of the major questions that weren’t getting answered in the past.

Conclusion and Next Steps
As use of the form increased throughout UCHealth, Titus received encouraging feedback that the new project kickoff process provided more benefits than initially anticipated. In addition to helping projects get off to a good start, the template helped promote consistency among various project managers, who, given the vastness of the HDO, might otherwise have different processes or ask for information at different times. Those consistency-promoting attributes are vital for a rapidly growing and integrating system.

“One of the biggest pain points we had with projects was getting the right teams involved and engaged,” Titus said. “Even though it’s just a simple two-page document, the form has definitely helped with engagement from various teams, especially at the onset of a project, which is really important.”

Today—in just the south region alone—the CE and IT departments are working together on three monitor integration projects that are directly and positively affected by the form:

1. Installing and integrating two new monitors into two computed tomography suites.
2. Replacing old, unintegrated monitors in a hyperbaric oxygen unit. Once live, the monitors will be able to download a patient’s vital signs and other protected health information to the EHR.
3. Replacing old monitors in the gastrointestinal lab.

In the past, such requests would have been the start of an HDO-wide game of ping-pong among the CE, IT, and Epic teams to determine responsibility for the different tasks within the project.
“Now, having that form has answered a lot of the questions that people had previously. It’s much easier to identify the teams we need, such as the networking team to lay out the wires, and mark it down on the sheet,” Titus said. “It answered so many of the questions we’d have with Epic ahead of time that would otherwise have come to us in a disorganized fashion.”

Today, the future is bright for UCHealth. As the healthcare system continues to grow—with new hospitals planned in northern Colorado and Denver—the CE and IT teams will be ready.

“As we continue to take on new facilities so quickly, or build new ones, we can now look back and know what was wrong last time, what we missed, and what we’re going to do better this time,” Schaeffer said. “We plan to have a better outcome for each new facility we bring on and each project we complete.”

Call for Nominations
AAMI’s annual “Bright Ideas” program recognizes the best and brightest examples of innovative healthcare technology management (HTM) departments that are implementing creative solutions to today’s challenges.
AAMI’s Technology Management Council (TMC) is seeking specific examples of HTM initiatives that have enhanced patient safety, reduced costs, and/or improved hospital processes. This is your chance to showcase your HTM department’s outstanding work!
To nominate your department, complete the online form at www.surveymonkey.com/r/BrightIdeasSubmission and answer the following three questions:
1. What challenge did your department face?
2. How was the problem solved?
3. What was the positive result?
Questions can be sent to Danielle McGeary at dmcgeary@aami.org.