University of Phoenix Material

Case Study—Memorial Health System CPOE Implementation

Memorial Health System is an eight-hospital integrated health care system in the midwestern United States. The health system has two downtown flagship tertiary care hospitals, each licensed for more than 700 beds, located in the two major metropolitan areas served by the system. The remaining six hospitals are community-based facilities, ranging in size from 200 to 400 beds. These hospitals are located in the suburban and rural areas served by Memorial Health System.

Four years ago, the system’s board of directors approved a multi-million-dollar initiative to install an enterprisewide clinician provider order entry (CPOE) system intended to dramatically reduce medical errors. Today, the system is far from fully implemented, and, in fact, has been removed from all but one of the two tertiary care facilities, where it remains in pilot adopter status.

At the time the board approved the CPOE initiative, the project was championed by Fred Dryer, the CEO, and was closely supported by Joe Roberts, the chief information officer (CIO) of the health system. Even during its proposal and evaluation by the board, the project was considered controversial by some of the health system’s stakeholders. For example, many of its physicians, who are community-based independent providers, were adamantly opposed to the CPOE system. They worried that their workload would increase because CPOE systems replace verbal orders with computer-entered orders by doctors. Dr. Mark Allen, a primary care physician commented, “The hospital is trying to turn me into a 12-dollar-an-hour secretary, and they aren’t even paying me 12 dollars an hour.”

In securing board approval, Dryer and Roberts presented an aggressive implementation plan that called for the requirements analysis, Request for Proposal (RFP), vendor selection, and project implementation to be completed in less than 18 months in all eight hospitals. During the discussion with the board, several of the members questioned the timeline. One noted, “It took you two years to set up e-mail, and everyone wanted e-mail. This will affect every clinician in every hospital. Do you really think you can do this in 18 months?”

In an effort to demonstrate results, Dryer and Roberts demanded results from the clinical and IT team formed for the project. By this time, a rushed requirements analysis had been completed, an RFP issued, a vendor selected, and a contract signed. The acquisition process took a little more than six months, leaving a year for the implementation.

In protest, a number of prominent physicians took their referral business to the other health system in the area that seized upon the controversy by promising that they would not use a CPOE. Shortly thereafter, the two leading champions for CPOE—Dryer and Roberts—left Memorial. The chief medical officer, Barbara Lu, who was a vocal opponent of the project, was appointed interim CEO.

Although Lu was an opponent of the project, many members of the board still supported it. In addition, none of the board members wanted to lose a substantial down payment to the vendor, so Lu was instructed to proceed with implementing the system. Lu appointed a close colleague, Dr. Melvin Sparks, to serve as the interim CIO of the system. Sparks was a practicing radiologist and a degreed computer engineer, so Lu thought he would be an ideal CIO for the system. Sparks hired Sally Martin as the executive project manager overseeing the implementation.

After evaluating the progress made to date and preparing a detailed thousand-step project plan, Martin reported back to Sparks on the status of the project with an exceptionally detailed report. Several key points were noteworthy in her report. Because of the rushed requirements analysis, several key workflow and system integration issues were missed. Consequently, to complete the project in the remaining 12 months, the organization would have to do the following:

* + Double the IT staff assigned to the project from 16 to 32 people.
  + Purchase approximately $500,000 in integration software not already budgeted.
    - Alternatively, the scope of the project could be reduced from an enterprise deployment to something less than that.
    - Alternatively, the duration of the project could be doubled to 24 months, keeping the staff flat but not avoiding the $500,000 software cost.

Dr. Sparks did not respond well to the news, exhibiting a great deal of anger at Martin, who was not working for the health system when the project was scoped and budgeted. Sparks yelled at Martin and told her never to come back into his office with bad news again. Her job, Sparks screamed, was to “figure out how to turn bad news into good news or no news.” As she left Sparks’ office, Martin resolved never to convey bad news to Sparks again, no matter how serious the issue was.

Over the next 12 months, the project progressed but got a bit further behind schedule each week. Martin reminded herself that she wasn’t conveying bad news to Sparks. In each status review meeting, Martin always presented a project schedule that was on scope, on schedule, and on budget.

During this time, the health system took on a number of other important IT initiatives requiring human resources. Each time another project fell behind schedule, Sparks took resources from the CPOE project. From the 16 people originally budgeted, the team was reduced to eight. The only positive aspect was that the project, which was costing money even though it was making little or no progress, was expending less cash as it made no progress.

As the project went into its 16th month, two months before the scheduled launch, nearly all the project budget had been consumed, and—in an effort to save money—the end-user training budget was cut to the bare minimum. At the same time, some doctors who had not left the system attended the CPOE vendor’s annual user group meeting. They saw the release of the vendor’s most recent system and immediately decided they wanted it for Memorial. Upon returning to the hospital, the doctors met with Sparks and persuaded him that the only hope for enlisting physician support for the changed workflow was to adopt the newest version of the software, which was just being introduced. The physicians told Sparks they had persuaded the vendor to appoint Memorial as an alpha site for the new software.

When Sparks informed Martin of the change in the scope of the project, Martin was concerned, but remembering Sparks’ reaction to bad news, she kept her thoughts to herself. She framed her questions in the form of the risks that such a major change in direction might cause with so little time to recover. Sparks smiled and told Martin, “Don’t worry; it will all work out.” So, two months before the launch, Martin worked with her team to alter the project work plan to install the new software, test the software, configure the software and interfaces, and train the users—all in two months, even though the same activities had taken almost 8 months the first time.

The scheduled date for the launch arrived, and all eight hospitals went live with the new CPOE system on the same day. The new software had flaws. The lack of end-user training was apparent, and the many requirements missed during the analysis became immediately obvious. Doctors could not log on to the system, and nurses could no longer enter orders. Patients were kept waiting for medications and tests.

After several days of this, Lu instructed Sparks to decommission the CPOE system and revert back to the manual procedures. An unknown physician was quoted in a major health care publication—under the title “CPOE Doesn’t Work”—describing the debacle at Memorial Health.

During the project postmortem, Sparks expressed surprise the project was not going as planned and asked Martin why she had not been more forthcoming about the problems, issues, and risks. The vendor took six months to fix the bugs in the software, and—30 months into the project—CPOE was launched again. However, this time, it was in one ICU in one of the tertiary care hospitals. Four years after the beginning of the project, this is the only unit in the entire health system in which CPOE is operational.