

Gaylord Specialty Healthcare

Technology Transformation Drives Patient Care Improvements and Boosts Clinician Satisfaction

Background

Gaylord Specialty Healthcare is a 137-bed long-term acute-care hospital (LTACH) hospital located in Wallingford, Conn. Gaylord specializes in medical management and rehabilitation for patients who suffer from acute illnesses, chronic disabilities, or traumatic accidents. The average inpatient length-of-stay at Gaylord is typically 25 days due to the severity of the conditions being treated. Both inpatient and outpatient rehabilitation services are offered to support the needs of patients through every stage of recovery.

Challenges

Neglected Technology

When George Kyriacou was named CEO of Gaylord in 2011, he inherited a series of challenges that were ignored for years. "The real issue was that Gaylord didn't have a forward-looking IT strategy. The systems had not been maintained and were not positioned for our future needs," he said.

"For our clinicians, using IT was a cumbersome process. There were problems with clinician ease of access, data entry and having to navigate multiple screens. They had to use multiple order sets when we could have had an integrated order set," Kyriacou said. "We had an ineffective process in using the computer system to identify patients who had uncontrolled pain. There were multiple screens to track the patient's pain level, which made it tough to stay on top of the patient's condition or implement an early intervention to address those pain issues."

Patient Monitor Limitations

Furthermore, Gaylord faced several problems with its electronic patient monitoring and clinician alert systems. There was a shortage of electronic monitors for patients with ventilators, so the monitors with telemetry were assigned to the patients with the highest acuity. Although there were separate alerts for ventilator patients and cardiac patients, all event alerts were sent to a centralized nursing station on each floor.

Alarm Fatigue

"Alarms were going off all the time at the nursing station, but no one was monitoring it because the nurses were out on the floor with patients," said Gini Staubach, Gaylord's chief nursing officer, as well as the organization's senior director of materials management, food and nutrition, and patient experience.

Shortly after joining Gaylord as its CEO, Kyriacou realized that a substantial transformation was needed – not just an IT overhaul, but a substantial change in how IT is used to advance patient care improvements. "IT should make life easier for clinicians to capture data, track data and see it in a meaningful way to help treat patients," he said. "I have an intrinsic belief that IT can help the caregiver have more time to spend with the patient on the patient's problems."

Overview

Scope of Engagement

- Technical Assessment
- Interim CIO Executive Staffing
- Technology Transformation

Challenges

In 2011, Gaylord Specialty Healthcare, began an IT transformation initiative to support patient care improvements. At the time, outdated equipment and software solutions that were cumbersome for clinicians to use consumed precious time that could be better spent interacting with patients. Plus, the organization's neglected hardware infrastructure couldn't accommodate system upgrades or expansion to support Gaylord's patient care strategies.

Solutions

Gaylord engaged Huntzinger Management Group (HMG) to conduct a technology assessment and placed an HMG executive as its interim CIO. Combined, these efforts drove a complete overhaul of how the IT department functions and supports the organization. Numerous solutions were replaced or upgraded to create a technology foundation that could be built upon to improve patient care.

Outcomes

The efforts of Gaylord and HMG created a new IT culture that engages clinicians as the drivers behind IT decisions. Patient care and safety improvements include a new hardware infrastructure to support its EHR, a new nurse call system, a new telemetry system with centralized patient monitoring, as well as bedside computing and medication verification. Additionally, an integrated alarm management system routes alerts to the appropriate caregiver via new wireless phones and wireless network. The alarm management system will enable Gaylord to meet 2016 Joint Commission requirements. These infrastructure improvements provide the flexibility to support future enhancements.

Solutions

Executive Restructuring

Kyriacou realized that solving the problems facing Gaylord were beyond the expertise within the organization, so he restructured the executive staff in 2012 and added new people to several key positions, including a chief nursing officer, director of respiratory therapy and others. Additionally, Kyriacou turned to a trusted resource – Huntzinger Management Group (HMG).

Kyriacou relied on HMG's expertise to turnaround a similar situation at another hospital where he was the previous CEO. "Gaylord needed an evaluation and consultation process to assess our strengths and weaknesses, so I brought in Huntzinger to focus our efforts and drive that change process," he said.

Technical Assessment and Findings

Kyriacou initially engaged Nancy Ripari from HMG to conduct a technical assessment, which evaluated Gaylord's existing IT infrastructure and governance to see how it aligned with business objectives. Ripari's findings uncovered that Gaylord's outdated IT infrastructure wouldn't support much needed system upgrades. Specifically, the Meditech systems that Gaylord used – electronic health record (EHR), finance, materials management, human resource and others – were several generations behind in their upgrades. Without the solution and infrastructure upgrades, Gaylord couldn't deploy new Meditech modules that would improve patient care, such as bedside medication verification and physician charting module.

Interim CIO Role Added

To resolve these issues, Kyriacou expanded the relationship with HMG to have Gerry Maroney become Gaylord's interim CIO, while continuing to engage Ripari for her expertise. Maroney is an HMG Senior Management Consultant. His first initiative as interim CIO focused on working with Ripari and Gaylord's executive staff to upgrade the Meditech systems.

"Gaylord was satisfied with Meditech and had been using it since 2003, so it made sense at that stage to upgrade it. Plus, financially, it was inappropriate to implement another vendor's EHR," Maroney said. "However, we couldn't move forward with any of the upgrades – even upgrading Meditech to the next version – because Gaylord didn't have the hardware to support it. We determined that Gaylord needed a complete hardware refresh."

Hardware Refresh and Meditech Upgrades

Request for proposals (RFPs) went out to three vendors for servers, storage area network (SAN), tape backups and digital storage. After a thorough evaluation, Gaylord selected Hewlett Packard Enterprise solutions for its server, storage and backup solutions.

The hardware implementation and Meditech upgrade started in October 2012 and progressed as follows:

- Initial hardware implementation and testing
- Migrating the old Meditech software (version 5.64) and data to the new hardware
- Testing
- Go live on new hardware and old Meditech version 5.64
- Implementing the new Meditech software (version 5.66) onto the new hardware
- Data migration and testing
- Staff training with superusers
- Go live on March 2013

New Patient Monitoring and Telemetry

While addressing the infrastructure and Meditech issues, Maroney and key Gaylord executives worked simultaneously to resolve the shortage of patient monitoring and telemetry devices within the hospital. After a thorough RFP and vendor evaluation process, Gaylord selected the Philips IntelliVue solution for implementation in every patient room in the Milne I & II floors of the hospital.

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“The implementation of the patient monitors took longer than we thought, since we had to recable every room and our rooms are often filled with patients. We implemented the monitors on one and then gradually rolled them out to other units,” said Peggy Bartram, Gaylord’s director of respiratory therapy and also the director of radiology.

Implementation of the monitors started in 2012 and concluded in 2013. “Each of the monitors are connected to what we call our ‘war room,’ which is staffed 24/7 to monitor patient vital signs,” Bartram said.

Automated Nurse Call Routing

To enhance the value of the Philips telemetry monitors and patient access to caregivers, Gaylord implemented a Rauland Responder 5 nurse call system in 2014 on all floors of the hospital. Alerts received via telemetry are monitored in the war room, but are also received by the Rauland system, which automatically routes them to the wireless phone of the appropriate clinician. For example, ventilator alarms are automatically routed to a respiratory therapist, while cardiac alarms are routed to the appropriate clinician. Additionally, if patients call their caregiver via their call button, the call is routed to the caregiver’s wireless phone for immediate contact.

“Getting the Rauland system up and running required us to build new wireless, or WiFi, infrastructure within the hospital and upgrade our phone system to support the wireless phones that clinicians now carry,” Maroney said.

Technology for Ventilator Weaning

In addition to his role as interim CIO, Maroney also heads the biomedical department, where he works with the director of respiratory to make Gaylord a leader in patient ventilator weaning. Gaylord’s goal is get patients off of ventilator support rapidly and safely prior to discharge. This approach provides patients with additional opportunities when they are discharged, such as continuing their care at home or at a skilled nursing facility. To accomplish this, Maroney and Bartram implemented VapoTherm Precision Flow ventilator equipment and software. “It’s the best software available, and can match anything that an acute hospital can provide,” Bartam said.

Outcomes

A Transformed Culture

The efforts of HMG and the Gaylord staff have transformed the organization’s culture to be more patient focused, while also elevating the role that the IT department plays in supporting strategic initiatives. “My focus has always been on moving, and moving relatively quickly, to drive change and results. Gerry and Nancy from HMG have been instrumental in helping me drive that process,” Kyriacou said.

“When I first came to Gaylord, it was as if IT was driving the process of what the clinical staff needed. When Gerry and Nancy came in, they turned that around and worked with the clinical staff to find what they needed. That was a major shift,” Kyriacou added. “The feedback from the clinicians is much more positive in that we’ve tried to make their lives easier and more efficient.”

IT Leadership and Collaboration

Maroney’s role as interim CIO was originally intended to be a six-month engagement, but his multiple successes have turned his role into a long-term assignment. “Gerry has been phenomenal. The work has been very coordinated across all disciplines to get everything up and running. Just the installation of everything was such a huge component. Our patient rooms are full all the time, so it’s difficult to even get people in there to work. There’s been a lot of coordination between clinicians and the IT department and it has been wonderful,” Staubach said.

Bartram agrees. “You can’t tell that he is the interim CIO,” she said. “He brings in all the stakeholders from the get go, hears their concerns, and gets everyone involved in vendor selection. When there is a problem, he communicates it to everyone. He’s really good about getting closure and getting things resolved.”

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Gaylord Hardware Refresh Supports Deployment of New Technology to Improve Patient Care and Increase Efficiency

New Technology Implemented	Outcomes
Bedside Charting	"We now have thin client computers in the patient rooms at one of our buildings and we're working to expand that. We use them for clinical documentation and for doing patient admissions at the bedside, which really helps prevent duplicate information and data entry," Staubach said.
Meditech Physician Care Manager (PCM)	"We built a new patient education sheet in the system so that care teams can see what the patient was taught and what's lacking. It used to be that notes from occupational therapy, physical therapy or respiratory therapy were just scribbled on some paper and things wouldn't get communicated," Bartram said.
Meditech Bedside Medication Verification (BMV)	Gaylord began a limited roll out of the BMV barcoding system in October 2015, with plans to use the solution throughout the hospital. "The bedside medication verification adds a huge layer of safety to make sure you're giving the right patient the right meds and the right dose," Bartram said.
ICD-10	"ICD-10 has been on the horizon for quite some time, so we're prepared. We've been doing dual coding with ICD-9 and ICD-10 in the two to three months leading up to the ICD-10 deadline. We went live on our Meditech system on October 1, 2015 for permanent ICD-10 usage," Maroney said.

Additional solutions to be implemented include:

Meditech Scanning and Archiving (SCA)

Meditech Data Repository (DR), which is used for both clinical and financial data

A portable GE digital X-ray device that can store 22,000 images. Physicians can view images directly on the device immediately after taking them, or view the images through the Meditech system.

Improved Patient Safety and Satisfaction

The implementation of new patient monitoring, telemetry and alarm management solutions have provided numerous benefits. For patients, vital signs are now monitored in Gaylord's war room that is staffed 24/7 to provide consistent coverage of events that many require clinical assistance. Furthermore, alarms are automatically routed to the appropriate clinicians via wireless phones that they care. The net result is that there are fewer audible alarms within the hospital that disrupt patients as they recover, and clinicians can respond faster to clinical events that require their assistance. "I used to get complaints from patients about the constant sound of the alarms, and I really don't get those anymore. The new system reduces noise on the floor and creates a healing environment," Staubach said.

For clinicians, the enhanced alarm management reduces the alarm fatigue that clinicians used to experience before implementation of the solutions. Additionally, the new alarm management helps Gaylord comply with Joint Commission requirements in 2016 that call for reducing nuisance alarms that contribute to clinician alarm fatigue. "Nurses are no longer missing alarms or ignoring them because when they receive an alarm they know that it has been prioritized and routed to them personally," Staubach said. "Gerry was instrumental in supporting the gaps that we had to meet the new Joint Commission requirements".

Higher Ventilator Wean Rates

Use of the Vapotherm technology, combined with Gaylord's new clinical protocols, has greatly helped the staff wean patients off ventilators before discharge. "Before, we only used to have about 50 to 60 patients per year get discharged after they were weaned off of the ventilators. We bumped that figure up to 157 last year," Bartram said. "Increasing our ventilator wean rate is important, as it gives patients more care options for discharge, and it elevates our reputation throughout the medical community. We want to be the organization that is known as being the best at caring for medically complex pulmonary patients."

Better Pain Management

One of the challenges that clinicians faced with the outdated Meditech systems was that it was difficult to document and manage patient pain levels. “It was tough to stay on top of patient management issues, but since nursing and IT totally revamped the pain module in our Meditech system, the whole process has improved significantly, from both a clinician and patient perspective,” Kyriacou said.

Looking Ahead

Despite all of the effort that went into Gaylord’s technology transformation, there are still significant initiatives on the horizon. In the coming months, Gaylord will begin the process of upgrading its Meditech solutions to version 5.67. In addition, the respiratory department is planning to connect its Bi-PAP devices and pulse oximeters into the nurse call system to improve alert handling.

From the perspective of the executives at Gaylord, the transformation has been an unqualified success. “Our IT department now provides a much higher level of service. IT is seen as a partner in the organization and a key component in helping the organization,” Kyriacou said.

