Using Technology to Re-engineer Discharge Processes and Enhance Transitional Care

The Chester County Hospital and Health System

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In today's healthcare environment, many organizations are evaluating strategies to assist in coordinating care as patients transition from one care setting to another. In particular, the discharge process is one that requires a high degree of coordination among care providers, the patient, and family, and often has a direct impact on potential readmissions—which can create additional costs and compromise quality outcomes for patients. In response, organizations like The Chester County Hospital and Health System (CCHHS) are already working toward a re-engineered discharge process that is more efficient and patient-friendly.

Originally chartered in 1892 as a 10-bed dispensary, CCHHS has been dedicated to the health and wellbeing of the people in Chester County and its surrounding areas for more than 120 years. Today, the health system includes a 220-bed complex in West Chester, Pa., and satellite locations in six neighboring cities—each of which strives to uphold the organization's values of innovation, collaboration, accountability, respect, and excellence.

Since 2010, team members at CCHHS have been involved with best-practice discharge initiatives, beginning with The Health Care Improvement Foundation's PAVE (Preventing Avoidable Episodes) Project. While collaborating with 50-plus organizations on ways to reduce readmission rates, improve transitions of care, and increase patient and family engagement as part of the PAVE Project, CCHHS was one of 11 hospitals nationwide to be asked to participate in a national pilot called Project RED (Re-Engineered Discharge), a research group at Boston University Medical Center.

Founded in 2003 by Brian Jack, MD, a professor of family medicine who has been working to re-engineer discharge processes for more than a decade, Project RED develops and tests strategies to improve how hospitals discharge patients. At the heart of Project RED are 12 discrete, mutually reinforcing components that have proven to reduce rehospitalizations and increase patient satisfaction.

Answers for life.

Project RED was a natural extension of the work CCHHS had begun with the PAVE Project. While it includes 12 action items, CCHHS staff decided to start with a pilot project that focused on the five components they felt would have the largest impact in its Telemetry Unit, where heart failure patients often experience a higher rate of readmission than the general patient population. They included:

- Begin discharge planning on day one.
- Create a "My Discharge Plan" for the patient.
- Develop a teach-back methodology for the patient.
- Schedule follow-up appointments with high-risk patients.
- Execute follow-up calls to high-risk patients.

A pilot project helps reduce readmission rates

For the Telemetry Unit pilot project, CCHHS staff began by manually creating patient discharge plans in Microsoft® Word documents. This meant entering information twice: once in the Soarian® healthcare information management system and once in the Word-based plan. While this created extra data entry work for clinicians, nurses, and other staff, they found it helpful to test, refine, and validate procedures manually before investing the effort to support the process and develop the reports via the Soarian system.

"The staff was really engaged in the project and excited about the improvements it would bring, so they didn't mind the initial bit of extra work," says Tina Maher, RN, BSN, NE-BC, director, Telemetry/PINU/ CCS at CCHHS. "We developed a plan template based on five of the eleven Project RED elements that detailed everything that has to happen over the course of a patient's stay to ensure a successful discharge."

At the same time, CCHHS began planning to rollout the new discharge processes across the health system. According to Kathy Zopf-Herling, MSN, RN-BC, director, Nursing Informatics at CCHHS, "It was an opportunity for us to leverage the Siemens Soarian system to streamline, standardize, and improve our discharge processes as we implemented some of the components of Project RED."

CCHHS measured readmission rates for congestive heart failure pilot patients in the Telemetry Unit over the course of the pilot, and, when compared to the previous year, the results were impressive: From FY11 to FY12, the pilot patients' average readmission rate dropped from 19% to 6%. "It was clear that the Project RED action items we implemented in Telemetry were successful," says Zopf-Herling. "Now it was time to expand the project 'house-wide.'"

Re-engineering discharge across the entire health system

Having proven that the re-engineered discharge process was beneficial to both staff and patients, CCHHS was ready to expand the project throughout the health system—but this time, it was going to trade in the manual, Word-based plans for a more streamlined, automated process within the Soarian system.

"When we decided to grow the project, we came up with two specific goals for how we wanted to leverage Soarian," says Zopf-Herling. "One, we wanted to use existing electronic interdisciplinary documentation and processes to create patient-friendly discharge instructions. Two, we wanted to take advantage of the workflow engine within Soarian to identify high-risk patients and ensure that key activities occurred around them, such as follow-up appointments and post-discharge phone calls."

For goal one, the CCHHS team first reviewed all assessments and order sets completed by nurses, physicians, and case managers to ensure that the data it needed for the new discharge instructions were already being collected in the Soarian system during the natural course of providing care. CCHHS also added phone numbers to the fields in the case management assessments for specific agencies like the Visiting Nurses Association (VNA), skilled facilities, and durable medical equipment companies that could be included in the patient discharge report. In order to pull and organize the data in a way that is easy for patients to consume, the team developed a look and feel for the report that utilized patient-friendly language, large fonts, and frequent page breaks so as not to overwhelm the reader. For example, the discharge diagnosis from the physician reads, "My main medical problem, according to Dr. Test, was: pneumonia."

Generic Name	Brand Name	Strength	Drug Dose	Route	Frequency/ Timing	Commonly Used To (Your Doctor may prescribe for another reason)	Last Dose Given
FLUTICASONE 0.05%	FLONASE 0.05%	50 mcg	1 spray	nasal	daily; every morning	breathing problems, asthma	01/21/2013 3:33PM
LISINOPRIL	ZESTRIL/PRI NIVIL	5 mg	1 tablet	oral	daily	heart	01/21/2013 3:42PM
FUROSEMIDE	LASIX	20 mg	1 tablet	oral	daily; every morning	water pill	01/21/2013 3:39PM
CARVEDILOL	COREG	12.5 mg	1 tablet	oral	twice a day	heart	01/21/2013 3:29PM
DOCUSATE SODIUM	COLACE	100 mg	1 capsule	oral	daily; every evening	stool softener	01/21/2013 3:44PM
ESCITALOPR AM	LEXAPRO	10 mg	1 tablet	oral	daily		01/21/2013 3:31PM
WARFARIN	COUMADIN	1 mg	1 tablet	oral	daily; every evening	Goal is to keep INR between 2 - 3; blood thinner, prevents clots	01/21/2013 3:46PM

THE CHESTER COUNTY HOSPITAL *and Health System*

Patient Name:	Date of Birth:	MRN:
Admission Date:	Age / Sex:	Account ID:
		Visit No:

MY DOCTOR'S INSTRUCTIONS

Discharge to: Home
Activity: Activity as tolerated
Activity: Stair climbing: Climb stairs up and down once in the morning and once at night
Return to work/school: Do not return to work/school until seen by physician
Bathing: May bathe
Lifting: Do not bend, stoop, or lift more than 10 lbs.
Driving: No driving for 24 hours
Follow-up: Primary Care Physician within 2 weeks
Follow-up: Pulmonary specialist within 1 week, Reason: difficulty breathing
Additional discharge instructions: Physician's office will contact you with test results within 1 week. If you do not hear from them within 1 week, please call physician's office.

SPECIAL INSTRUCTIONS JUST FOR ME
Post procedure instructions:
    Congestive Heart Failure INSTRUCTIONS

    - Take your medications exactly as prescribed. Order refills well in advance. NEVER run out of your medications.

    - Weigh yourself daily at the same time every day - in the morning after going to the bathroom and before breakfast. Write your weight down each day.

    - Call your doctor for weight gain in excess of 2-3 pounds overnight or 5 pounds in 1 week.

    - Follow a low salt (2 gram sodium) diet, unless your doctor has told you otherwise. Avoid canned foods and highly

"Our reports are pulling lots of data from Soarian— everything from demographics and CPOE orders to nursing documentation and medication instructions— so it was critical that they present that information in a simple, concise way," says Maher. "We've had feedback from patients who said that their customized plan was 'like getting an award for discharge,' so we feel pretty confident that the reports have helped improve the discharge and post-care processes for patients."

Improved identification and treatment of high-risk patients

To help achieve its second goal, the team at CCHHS leveraged the automated, embedded workflow technology within the Soarian system to identify patients at risk for readmission. The system looks for specific criteria, including recent readmissions, high-risk and total number of medications, certain diagnoses (e.g., stroke, heart failure, and COPD), and if the patient lives alone, and then creates a report that shows all high-risk patients in a unit or hospital-wide. The list is updated when the patient's status changes, such as when the patient's prescribed medications are modified. It also generates a high-risk notification order that is visible to staff and clinicians throughout the patient's stay and creates an electronic list for post-discharge phone calls that excludes high-risk patients who will have VNA nurse involvement.

"When we set up our high-risk patient workflow in Soarian, we started with criteria that are focused on identification and intervention, improved transitional care, and reduced readmissions," says Zopf-Herling. "Being able to focus on those patient populations with the greatest need for education, coordination, and follow-up has allowed us to provide more proactive care to high-risk patients inside our four walls and after they've been discharged."

Making patient care more meaningful and impactful

Since transitioning to an electronic discharge process driven by the Soarian system, many constituents in and around CCHHS have experienced impressive benefits. For starters, CCHHS clinicians and nursing staff are more efficiently guided through the discharge process, enabling them to better educate and prepare patients to leave the hospital—and facilitate a smooth transition to the next care delivery setting.

What's more, other organizations within the health system have become more integrated in the coordination and transition of care. Andrea L. Devoti, president and CEO of Neighborhood Health, a not-for-profit provider of home health, hospice, and Senior HealthLink services to the Chester County area, describes the patient discharge reports as "invaluable" to her staff and patients.

"The new discharge plans take teach-back to a new level for my staff," says Devoti. "They can work with the patient to quickly and easily verify follow-up visits, review medication instructions and potential side effects, discuss recommended diet and activities, and so on. The plans have helped facilitate a smoother transition to home care and better coordination between Neighborhood Health and CCHHS. Plus, our staff and patients just love them."

Reflecting on the project, Maher believes the staff members embraced the changes—even when they were a challenge—because they knew it would positively impact their patients. "Our staff members were on board from day one, because they understood that these changes would help us provide better care to our patients," she says. "On top of that, the new discharge procedures enriched the time they were spending with patients, making it more meaningful and impactful."

The health system plans to monitor and evolve its discharge processes through a combination of metric analysis (e.g., readmission rates, Press Ganey, and HCAHPS scores) and feedback from staff and patients. According to Angela Coladonato, RN, MSN, NEA-BC, senior vice president and chief nursing officer at CCHHS, continuing to leverage the Soarian system will be a key element in reaching the health system's goals in years to come.

"Soarian has enabled us to take our discharge process to the next level. It pulls all the pieces together and automatically creates a complete, comprehensive, and patient-friendly discharge plan of care," she says. "Continuing to evolve our discharge process will help us ensure that patients receive the education they need, that follow-up care is coordinated, and—most importantly—that we are contributing to positive outcomes for our patients."

For more information and other chapters in the "Technology in the New World of Healthcare" series, visit www.usa.siemens.com/techseries2013.

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Leveraging Documentation and Embedded Workflow Technology to Coordinate Care across a Health System

PinnacleHealth

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In some health systems, it's not uncommon for patients to feel a sense of déjà vu as they transition from one facility to another—mainly because the questions they are asked and the paperwork they fill out often sound and look oddly familiar. Today, perhaps more than ever, providers need to better coordinate their efforts in order to maintain continuity of care as patients transition from one setting to another. Care coordination efforts driven by uniform processes and systems can enhance the patient experience and result in fewer readmissions and improved clinical outcomes.

As a provider of acute inpatient rehabilitation services and physical, occupational, and speech therapies, the Helen M. Simpson Rehabilitation Hospital and its parent PinnacleHealth have always stressed the importance of care continuity. As evidence of this, clinical team members at the 55-bed inpatient rehab hospital took on the task of redesigning the documentation they use to manage patient care and rehab activities.

Rehab staff had been working from the same documentation as the acute care Community General Osteopathic Hospital (CGOH) within the PinnacleHealth system. The documentation included valuable information about the patient but was not customized to address the key requirements of caring for a rehab patient. The staff realized that adopting highly automated documentation processes would not only support improved care delivery in the rehab setting, but also help ensure that care is coordinated and efficient as patients move across the health system.

The rehab hospital assembled a multidisciplinary team that included nursing, physicians, nutrition, case management, and IT to redesign the rehab documentation within the Siemens Soarian® healthcare information management system. "While it was important that the documentation be customized to meet the unique requirements of rehab staff and patients, we also wanted to leverage the workflow engine capabilities within Soarian to increase staff efficiency and enhance patient care throughout the health system," says Penny Frownfelter, MSN, RN, director of nursing at CGOH.

Answers for life.

Coordinating Care at Every Milestone of a Patient's Stay

The team at the rehab hospital implemented the documentation changes in stages over the course of two years, beginning with post-acute care before moving on to acute rehab and the various therapies. As a result, the documentation process has improved at every milestone of a patient's experience, including:

• Post-acute care assessment

• Rehab admission

• Functional Independence Measure (FIM[1]) tracking

• Therapy

• Discharge

Post-Acute Care Assessment

Nurse coordinators conduct a patient's pre-assessment several days before a transfer to the rehab hospital. They review clinical information regarding the patient's hospitalization, prior level of functioning, and goals at discharge. When they document their findings in the Soarian system's electronic health record, a consult request is initiated to get physician approval. The system's embedded workflow engine prompts the physician to access the assessment, where he or she can add relevant notes and approve the patient for rehab. The Soarian system then initiates insurance and discharge activities to complete the patient's transfer to the rehab hospital.

Rehab Admission

Upon a patient's admission to the rehab hospital, nurses review the acute care documentation in the Soarian system before conducting an initial evaluation of physical capabilities. "It's here that nurses will document goals in a patient's plan of care and begin developing a therapy plan," says Cynthia Mastrine, BSN, RN-BC, nurse manager at the rehab hospital. "Soarian leverages this information to populate physical therapy flow sheets that the nurses and therapists will then use to guide their sessions with patients."

According to Physical Therapist Tara Krammes, DPT, having all relevant information available in the Soarian system and being able to navigate through it quickly have improved coordination-of-care efforts as patients transition to the rehab setting. "Data flows automatically from the acute-care hospital, so we have everything we need in the rehab hospital to plan and coordinate care throughout a patient's stay with us," she says.

Functional Independence Measure (FIM) Tracking

As the primary method for both tracking how much assistance a patient requires for specific tasks and acquiring reimbursements for therapy provided, accurate FIM™ scores are incredibly important to the rehab hospital. The FIM (Guide for the Uniform Data Set for Medical Rehabilitation, 1996) is an 18-item ordinal scale, used with all diagnoses within a rehabilitation population, and is viewed as most useful for assessment of progress during inpatient rehabilitation. Members of the care team assess the patient's physical and cognitive capabilities on the day of admission, during therapy sessions, and at discharge, and document their findings in the Soarian system, which automatically assigns a FIM score and calculates progress throughout the patient's stay.

"Because FIM documentation is automated and captured during the normal course of care delivery, it is more complete, which helps us comply with regulatory requirements and more accurately track reimbursements," says Mastrine. "In addition, being able to show consistent progress in FIM scores enables us to more easily get extra therapy time approved for patients who need it."

Therapy

Therapists use a "Charge" tab within the Soarian system to document how long a therapy session runs, which is important for billing and compliance purposes. The system automatically breaks therapy sessions into units in accordance with the Medicare 8 Minute Rule, which dictates that in order to bill for a treatment unit, a therapist must have spent at least eight minutes of each unit providing direct service to a patient.

Medicare also requires that 180 minutes of therapy be provided to each patient per day (or a total of 15 hours per week). The real-time documentation and workflow capabilities and automated calculation of therapy time within the Soarian system enable staff members to not only ensure they are meeting these requirements, but also providing the care and therapy necessary to help the patient achieve the goals identified in the plan of care.

Discharge

Finally, when a patient is ready to be discharged, the rehab staff generates a summary report in the Soarian system that automatically pulls in FIM and therapy data and offers the opportunity to update the patient's functional status and address the goals stated in the plan of care.

[1]FIM is a trademark of the Uniform Data System for Medical Rehabilitation, a division of UB Foundation Activities, Inc.

"The automated documentation and workflow technology within the Soarian system have been effective tools in helping us enhance collaborative efforts and facilitate smoother transitions between care settings."

Maggie Cruse-Horan, BSN, RN, CRRN, Nurse Manager
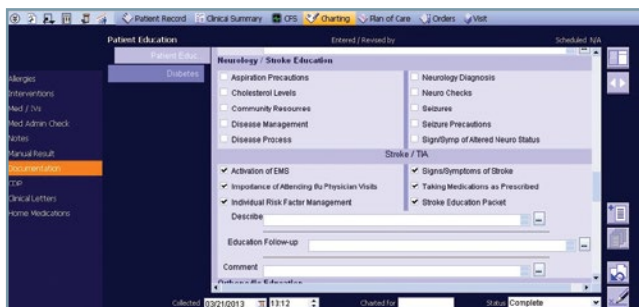
As with the previously discussed milestones, the ability to capture the patient's complete experience on a single screen simplifies and streamlines the entire process, enabling staff and patients to quickly see how productive their therapy experience was, while also ensuring all the data required for billing and reimbursements has been collected.

Enhancing Compliance, Increasing Reimbursements, and Improving Patient Care

Since bringing the rehab documentation process online in the Soarian system and leveraging its embedded workflow engine, the rehab hospital and PinnacleHealth as a whole have experienced a number of significant benefits.

According to Mastrine, being able to alert clinicians of the need to complete documentation via workflow technology has resulted in improved documentation compliance. "Prior to our redesign in Soarian, initial nursing assessments were completed 72 percent of the time," she says. "Today, our compliance level is 100 percent for those assessments."

Melissa Gillis, OTR/L MPA, administrative director at the rehab hospital, has also seen impressive improvements in the health system's documentation of therapy activities. "Using the Clinical Summary within the Soarian system, our clinicians can ensure the required amount of therapy is provided and complete the necessary follow-up when it is not," she says. "We have seen a 52 percent increase in our ability to meet defined therapy requirements since implementing the new process—and that has had a direct impact on our reimbursements."

The new documentation process—and the ability for all care team members to review complete electronic documentation as part of the weekly team meetings—has allowed for all disciplines to come together to discuss each patient's plan of care and make any necessary updates or modifications.

"Since we're all looking at the same information within the Clinical Summary, we're better able to focus on a collaborative approach to care and treatment of patients," says Maggie Cruse-Horan, BSN, RN, CRRN, nurse manager. "The physicians in particular really like it because the conferences are faster and more productive, enabling them to use the time efficiently and get back to caring for patients."
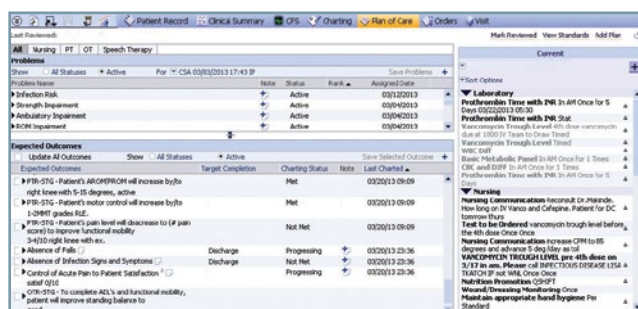
Lastly, with all care team members working from the same data—which is continuously being updated and refreshed as clinicians complete documentation activities throughout the day—the continuity of care provided to patients has improved dramatically as they move into, within, and out of the health system.

"The automated documentation and workflow technology within the Soarian system have been effective tools in helping us enhance collaborative efforts and facilitate smoother transitions between care settings," says Cruse-Horan. "We're following care-coordination best practices that create a more positive experience for every patient within our health system."

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Leveraging Technology to Improve Patient and Family Engagement in the Care Process

Main Line Health

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Numerous initiatives are underway in the healthcare industry to drive patient and family engagement in their own health and wellness. The reason for this is simple: engagement is a critical factor in patient safety and in achieving improved clinical outcomes. In fact, patient engagement is so important that Leonard Kish, a noted health IT strategist, declared it to be "the blockbuster drug of the century."[1] And fundamental to these efforts is the need to create a sense of shared responsibility, accountability, and decision-making among patients, families, and caregivers.

In order to enhance its focus on patient and family engagement across the health system and increase the transparency of care delivery for patients and their

families, Main Line Health (MLH) leveraged the reporting and embedded workflow tools within the Siemens Soarian® system to create the Patient Daily Care Plan—a custom report it provides to patients every day to keep them informed about the course of their care.

As one of the largest health systems in Southeastern Pennsylvania, MLH offers a full range of medical, surgical, obstetric, pediatric, psychiatric, and emergency services. At its core are four of the region's most respected acute care hospitals as well as one of the nation's premier facilities for rehabilitative medicine.

[1]Chase, Dave. (September 2012). Patient Engagement is the Blockbuster Drug of the Century.
Retrieved from http://www.forbes.com/sites/davechase/2012/09/09/patient-engagement-is-the-blockbuster-drug-of-the-century.

Answers for life.

Main Line Health

Developing Patient-Friendly Content

MLH designed the Patient Daily Care Plan as an information summary and communication tool, organizing key information—such as the names of nurses and primary care and consulting physicians, medications, pending studies, diet, and allergies—in a way that is easy to read and understand. For example, the report features an attractive, full-color style with headers and sub-headers that guide patients to key information about their care.

According to Ellen Weaver, BSN, RN-C, staff nurse at Paoli Hospital, one of the drivers to create the Patient Daily Care Plan was the disparity between patients' perception and retention of care information. "Hospital stays are stressful experiences for most people, and we've found that when you communicate with them verbally in high-stress situations, their retention is limited," she explains. "However, the report is something they can go back to later in the day when things have calmed down, and everything they need to know is right there."

When MLH staff memebrs took on the project of creating the Patient Daily Care Plan three years ago, they knew that the Soarian system's reporting and workflow capabilities would give them an effective head-start. "All of the information that populates the reports has been entered into the system by clinicians during the normal course of care delivery," says Deb Laumer, MSN, RN, MBA, NE-BC, director of clinical informatics. "This was important because it meant there would be no duplication of efforts as we developed the report."

One area of key progress has been in addressing patients' knowledge of their medications and why they were prescribed. Medications are a critical component of the report, so it is important that the information be presented in patient- and family-friendly language that aids understanding—not just of the medication being taken, but why it's being taken. Following the implementation of the report, MLH surveyed patients to gauge their knowledge of medications during a stay, and there was a noticeable increase in overall understanding.

What's more, by including its legal team in the development of the report, MLH was able to ensure alignment with HIPAA and other privacy regulations.

A Tool for Improved Patient Education and Understanding

Educating patients about their care is one of the primary goals of the Patient Daily Care Plan, and the nurses at MLH help maximize the report's potential by reviewing it daily with patients and their families. Throughout the day, the report serves as a reference tool that guides conversations, increases patients' education, and helps them retain important care information.

"We're confident that the reports are having the desired effect on patients' education and understanding," says Laumer. "In fact, results of pre- and post-visit surveys we conducted showed that 97 percent of patients felt the report was 'very' or 'somewhat helpful' in understanding their care during a hospitalization."

The Patient Daily Care Plan also helps improve patient safety by reducing the proliferation of wrong or mistaken patient information. "We had a situation where an elderly patient was admitted in the emergency room and her husband gave incorrect allergy information because he was under duress," says Weaver. "When the patient was given her report later on, she immediately recognized that her allergies were not accurate, which enabled us to update her information in the Soarian system and correct the mistake."

"Results of pre- and post-visit surveys we conducted showed that 97 percent of patients felt the report was 'very' or 'somewhat helpful' in understanding their care during a hospitalization."

Deb Laumer, MSN, RN, MBA, NE-BC
Director of Clinical Informatics

When asked if they would want themselves or their loved ones to receive the reports again during a future hospital stay, 93 percent of patients said "Yes."

In addition to enhancing patients' understanding of care provided, MLH wanted to improve engagement with families and significant others—and the health system has gotten feedback that the Patient Daily Care Plan is helping to accomplish that. When asked if they would want themselves or their loved ones to receive the reports again during a future hospital stay, 93 percent of patients said "Yes."

Finally, the daily report acts as a focal point patients and caregivers can use to start dialogues and create understanding about the care provided. With this point of reference driving conversations, the value of the time nurses, doctors, and other staff spend with patients and their families has increased for all parties. After all, today's patients and families should be viewed as partners in their health, and this tool is one example of how MLH is promoting efficient and effective models of care that build patient engagement.

Technology Plays a Supporting Role

While the Patient Daily Care Plan has been well received throughout the health system, MLH continues to look for ways to improve the patient engagement process. As part of that effort, clinicians are constantly evaluating the information they share and communicate with patients and families during the care process—and there are a number of refinements MLH is planning to make in the future.

According to MLH Vice President and Chief Medical Information Officer Harm Scherpbier, MD, one of the projects is to post the daily reports on the organization's online portal. "The Patient Daily Care Plan is a printed report—a low-tech tool," he explains. "By putting them on our portal, patients and their families will be able to access them anytime and anywhere—and do so via the high-tech tablets and smartphones so many of us are using today."

Dr. Scherpbier has also proposed some changes to the reports themselves that he believes will make them even more impactful for patients. "One idea is to include physician photos on the reports, which would make it much easier for patients and families to know who is providing their care and whom to look for when they have questions," he says.

"In addition, we're considering putting a short daily message on the reports that changes each day and helps differentiate the reports over the course of a stay. And since our caregivers already do a lot of online progress notes in the Soarian system, we would give them the opportunity to include some of that information in the reports to help patients identify key milestones in their care."

As organizations continue to develop strategies and programs to enhance patient and family engagement in their health and wellness, MLH's Patient Daily Care Plan is helping both parties be more active participants in their care. And, the reporting and workflow technology within the Soarian system plays a supporting role, enabling clinicians to share information that fosters engagement and empowerment, leads to open discussion and shared decision-making, and creates a sense of partnership among care providers, patients, and their families.

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Increasing Patient Involvement and Improving Care Quality with an Interdisciplinary Plan of Care

Riverside Health System

www.usa.siemens.com/techseries2013

It's no secret that patient safety initiatives, regulatory requirements, and opportunities for operational efficiencies are driving transformation in nearly all provider settings—with information technology (IT) emerging as a key catalyst for change. Legislative acts, such as the Health Information Technology for Economic and Clinical Health (HITECH) Act and the Patient Protection and Affordable Care Act (PPACA) have called for the "meaningful use" of technology to support an enterprisewide EHR. As a result, many organizations are exploring how they can leverage IT to not only meet these requirements, but also increase patients' engagement in their own care and operate more profitably and efficiently.

Riverside Health System is one such organization. Originally chartered in 1915 as a single hospital in Newport News, VA, Riverside has grown to become one of the state's most comprehensive healthcare providers, offering a full spectrum of health services via its many physician offices, outpatient centers, convalescent facilities, retirement communities, hospitals, and affiliate sites located throughout Eastern Virginia.

Spurred by the patient care initiatives and regulatory requirements mentioned earlier, Riverside developed an electronic interdisciplinary plan of care (IPOC) within the Siemens Soarian® system to help improve care coordination, collaboration, and decision support across all of its provider organizations.

"Our previous paper plans of care were typically seven-plus pages in length, inconsistently used among staff, and provided little to no opportunity for patient and family involvement in the care process," says Chief Nursing Officer Terris Kennedy, RN, PhD. "Because we didn't have formal processes around the plans of care, they were not a focal point for collaboration, which created challenges as the different disciplines tried to stay in synch about a patient's progress."

Staff at Riverside knew that a standardized, electronic IPOC would help engender a more enterprisewide approach to care delivery, where clinical decision support is coordinated across the care continuum—enabling the health system to collaborate more effectively and help improve outcomes for patients.

Answers for life.

RIVERSIDE

Putting Patients at the Center of Care

In planning the IPOC, Riverside set a number of goals for the project. First, it required interdisciplinary involvement from all relevant parties, including care managers, nurses, physicians, rehab services, respiratory therapy, nutrition, and pharmacy. Second, it had to put the patient at the center of care by including a daily goal in the patient's own words and a transition date goal for the next setting (whether that be another area within or outside the health system, such as from the ICU to Med/Surg, or the patient's home).

"In conjunction with Siemens, we developed the support within the Soarian system to help us meet these goals," says Kathy Menefee, DNP, RN, administrative director, Patient Care Operations. "To ensure interdisciplinary involvement, we created a 'roll call' screen that allows us to document which disciplines are present during rounds."

She continues: "As for the patient-centered care goal, our nursing informatics team built a free-text field on the main plan of care screen to capture the patients' goals in their own words. And rather than accept something like 'I want to get better,' our nurses push patients to be really specific about what they want to accomplish. For example, 'I need to be home for my wife's birthday on June 1.' It's a subtle change, but we've found it gets patients more invested in their care and helps our clinical team better understand patients' personal goals."

The third goal for the IPOC project was that it had to be evidence-based and leverage the embedded workflow technology within the Soarian system to expedite a patient's path from assessment to diagnosis to care delivery. Riverside achieved this by integrating evidence-based content from Zynx Health and Mosby into the Soarian Clinicals IPOC.

Today, Riverside leverages these workflows to automatically respond to predetermined triggers, problems, and diagnoses based on assessment findings and order sets within the IPOC—helping ensure care is synchronized across the various disciplines. For example, if a patient's oxygen saturation is less than or equal to 93 percent (with or without supplemental oxygen), the IPOC will generate a workflow within the "General Respiratory Care" screen that alerts staff to assess the situation.

"These workflows enable us to get care to the patient faster, because we're identifying problems at the point of admission," says Menefee. With the success of its workflows, Riverside plans to develop additional ones for other common triggers and diagnoses.

Finally, the IPOC had to be the focal point of rounding and conferencing in order to increase communication and collaboration among interdisciplinary team members. Says Menefee: "The IPOC screen is helpful in viewing each care team member's role in a patient's plan of care. Each discipline has its own 'tab,' and the 'all' tab displays the complete care team in a single view."

A Pilot Produces Quantitative and Qualitative Improvements

Having laid out the goals for the project and defined how it would accomplish them, Riverside kicked off the IPOC initiative by forming a steering council and workgroup and then launching a pilot project. "As part of this effort, there were some key metrics we were hoping to track and improve with the implementation of the IPOC," says Kennedy.

Riverside focused on measuring how the IPOC would affect the plans of care review and their use in practice, the number of readmissions, and patient satisfaction scores throughout the year-long pilot project. Monitoring this information is critical because it has a direct impact on accreditation, value-based purchasing, and reimbursements—as well as the quality of care provided and patient outcomes.

The results were staggering. Over the 12-month span, the pilot hospital increased daily IPOC reviews by 75 percent, reduced its readmissions by 36 percent, and reached the 92nd percentile for patient satisfaction in the American Hospital Association Region 3 ranking[1]. "If we needed proof about the power of a collaborative, interdisciplinary approach to care, we had it, but the results weren't just quantitative," says Kennedy. "We saw qualitative improvements that were harder to measure, but still impacted how we deliver care."

For example, the new interdisciplinary processes led to a number of "catches" throughout the pilot project. In one instance, staff was having trouble getting a pediatric patient to eat, but by collaborating with each other and

[1]Source: Press Ganey Online.

pooling all information about him, it was determined that he was grieving over the recent loss of his mother. "Catching" this one key detail enabled staff at the hospital to change their approach to caring for the patient.

"We had another situation where a patient complied with respiratory treatment in the hospital, but was noncompliant at home. Through conferencing, we discovered that the patient had a different mask at home that was more difficult to use," says Kennedy. "The metrics are great, but 'catches' like these show that the new IPOC approach has helped improve the patient experience in uniquely personal ways."

Other qualitative results demonstrated improved communication among the care team, more streamlined care delivery and identification of process gaps, and a more holistic approach to care delivery that better allows the care team to focus on the patient.

Plans for the Future
Following the success of the pilot project, Riverside implemented the IPOC at each of its acute care facilities in less than five months. Riverside leadership, acknowledging the importance and value of the IPOC, participated in each of the implementations. Riverside President and CEO William Downey was on-site to kick-off each facility implementation, and Executive Vice President and COO Wade Broughman has traveled to each facility to participate in IPOC rounds. Moving forward, Riverside will continue to assess and refine the IPOC and the associated processes.

One project currently under consideration is to leverage the Soarian system's HIE capabilities to allow the IPOC to begin in any care setting and end in any other, whether it is in or outside the Riverside Health System.

"HIE creates a seamlessness for all parties involved: the patients, the clinicians, and the business," says Menefee. "Say, for example, that a patient is discharged from our acute care facility and his or her IPOC shows that two of the four documented problems have been addressed. With HIE integration, the remaining two problems will automatically populate in the patient's POC at the next care setting, which simplifies and expedites how care is coordinated for this patient."

Finally, the health system wants to further involve patients in their own care by having them contribute to the initial development of their IPOCs and receive daily physical IPOCs they can use to monitor their goals and progress.

Nursing as the "Integrator"
Reflecting on the accomplishments of Riverside's IPOC project, Kennedy and Menefee believe that nurses—when working as part of an interdisciplinary care team and using technology to support their practice—are key to integrating care and keeping the patient as the central focus. "Nurses are part of the interdisciplinary team, but they're also the ones who make sure care is coordinated, the team is taking appropriate action, and patients are informed about their care," says Kennedy.

Menefee continues: "The technology can only go so far. We depend on our nurses to pull it all together for Riverside and for our patients—and that's a key lesson learned for any health system taking on a similar project."

For more information and other chapters in the "Technology in the New World of Healthcare" series, visit www.usa.siemens.com/techseries2013.

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Turning Super Users into Champions to Advance Clinical IT Adoption and Education
Yakima Valley Memorial Hospital

www.usa.siemens.com/techseries2013

Super users play an important role in supporting the adoption and use of healthcare IT systems. As members of the clinical team first and foremost, super users have the knowledge and skill necessary to provide support and education to colleagues at the bedside. And, as proficient users of clinical systems, they can assist with training, answering questions, and troubleshooting problems.

The benefits of the super-user approach are numerous: healthcare organizations create in-house expertise, clinicians gain access to on-the-spot educational resources, and patients benefit from more efficiently delivered care. Yet, while the clinical team at Yakima Valley Memorial Hospital had success with its own super-user program, it began to wonder how it could take the program to the next level.

A 226-bed, not-for-profit hospital based in Yakima County, WA, Memorial was founded in 1950 with the goal of improving the health of county residents. In the more than 60 years since, it has come to represent state-of-the-art, quality-of-life healthcare services, offering award-winning pediatric, cancer, occupational, return-to-function, and women's care across its numerous network facilities.

In 2005, when Memorial implemented Med Administration Check™ from Siemens Healthcare, it initiated a super-user program to provide a support system for the nurses and clinicians who would be learning to use the product for the first time.

Traditionally, clinical and non-clinical super users are selected because they are enthusiastic, proficient in the use of the technology, and willing to help others learn. Memorial chose its super users based on these criteria, ultimately asking them to help with the education and training of clinicians, in addition to fulfilling their normal, everyday duties.

After a short time, however, the group spearheading the Med Administration Check implementation realized that the extra meetings, training, reporting, and time required of the super users were simply too much. According to Allen Kautzman, RN, clinical informatics supervisor, these added responsibilities forced the super users to split their focus between delivering care and supporting system adoption.

Answers for life.

"After realizing that the traditional super-user role was too much for one person to take on, we convened a group of top nurses and clinicians who were experienced with the Med Administration Check system to discuss how we could create a support program that would work for everyone," says Kautzman. "The result was an evolution of the super user to a champion whose sole responsibilities for one shift would be education, support, and input on system design while fulfilling that role."

Fulfilling the Role of a Champion

While Memorial continues to utilize super users in the traditional way, it created the champion role as a way for clinicians to aid colleagues in integrating best-practice system usage with care-delivery processes. And because they have expertise in both clinical systems and care delivery, they are instrumental in other areas as well, including ongoing system design, implementation, and optimization.

When a Memorial nurse or clinician is selected as a champion, he or she still provides direct patient care most of the time, with one shift a week designated for the champion role. By making the champion a full-time responsibility for that shift, Memorial was able to eliminate the split focus that plagued the super users during the Med Administration Check implementation.

"Now, nurses and clinicians can focus on providing excellent patient care, while champions remain solely dedicated to system education and support," explains Sandy Dahl, RN, MBA, vice president and chief clinical officer.

While the champion program started as a simple proof of concept with the Med Administration Check implementation, it has since grown to support Memorial's implementation of the Siemens Soarian® Clinicals system. And in that time, the group has expanded to 10 champions, with one working a day shift and one an evening shift every day at the hospital. To ensure continuity of processes and communication, the champions meet on a monthly basis and also participate in other IT councils.

According to Rachelle Kershaw, RN, a current champion in Memorial's critical care unit, champions round to other departments during their shift, which is important for a variety of reasons. "Because champions rotate, we're able to learn the unique challenges and requirements of each department," she says. "This gives us a much more holistic view of how Soarian is being used, how it can be improved, and how we can proactively increase system education and utilization."

As the champions address questions and support issues from clinicians, they document the type of support provided, which is information that can then be reviewed by all champions. The group uses this information to identify trends and common areas requiring follow-up or education reinforcement. For example, if a certain medication is being frequently overridden, a champion can look into whether it is a system [configuration] or clinician issue and take steps to resolve it.

What's more, with the champions fielding questions and requests from nurses and clinicians in every department within the hospital, they gain specialized knowledge that makes them vital participants in future system planning and design.

"Our champions help us evaluate the needs of the many versus the needs of the few, so we can prioritize requirements and better define our clinical IT road map," says Kautzman. "Specifically with Soarian, they help direct its evolution by targeting changes that will have the largest and widest positive impact throughout the hospital."

"Rather than fighting change, our staff now feels a collective ownership of the IT systems and processes around them."

Sandy Dahl, RN, MBA
Vice President and Chief Clinical Officer

Proactive Report Monitoring Promotes Compliance

Champions also leverage alert, workflow, and reporting functionality with the Soarian system to ensure documentation is being completed by clinicians, and to initiate follow-up activities when necessary. For example, they monitor in-progress documentation, interventions not completed, usage of computerized physician order entry (CPOE), and Med Administration Check override reports.

interventions
August 23, 2013, 7:36 AM

Yakima Valley Memorial Hospital
2811 Tieton Drive
Yakima, WA 98902
509-575-8000

Intervention Report

	DueTime	Status	ChartedTime	Charted By	Comment
2W					
022001			1009189515		
Turn patient					
Turn patient every 2 hours					
	8/17/13 12:00	Not Complete	8/17/13 19:14		pt. sleeping
	8/19/13 22:00	Not Complete	8/19/13 22:06		pt. sleeping
	8/22/13 18:00	Not Complete	8/22/13 19:10		pt. up in chair
022202			1009179498		
Float heels					
Float heels Every Shift					
	8/20/13 14:00	Not Complete	8/20/13 16:20		pt not well
Turn patient					
Turn patient Every 2 Hours					
	8/20/13 14:00	Not Complete	8/20/13 16:19		
5E					
050401			1009095413		
Transfer To					
Transfer To Med/Surg ; Status Admit as Inpatient					
	8/6/13 9:34	Not Complete	8/6/13 13:04		keep on tele
5W					
052402			1009126612		
Turn patient					
Turn patient Every 2 Hours					
	8/23/13 6:00	Not Complete	8/23/13 7:04		PATIENT FAMILY REFUSED

"In the case of the Med Administration Check override reports, the immediate follow-up efforts of champions with nurses and clinicians led to a reduction in overrides from 18.5 percent to 3.5 percent," says Dahl. "On top of that, our medication bar code-scanning capabilities are always hovering near 100 percent. The champion takes the same report and analyzes if it is an end-user issue or a scanning issue. If it is a scanning issue, the champion takes it to pharmacy to be resolved. These are just two examples of the many measurable improvements we've made in documentation and reporting since launching the champion program."

Another example that is less about metrics and more about education and adoption is the physicians' use of CPOE reports. Champions monitor these reports closely and look for specific difficulties or trends that might need to be addressed in a one-on-one session with a physician to help him or her successfully utilize CPOE.

"This level of reporting and careful monitoring has been important since the original Med Administration Check and Soarian implementations, and we continue to rely on it to drive ongoing education and support within the champion program," says Kershaw. "We've already reached 100 percent documentation compliance in many areas of the hospital, and we're confident the numbers will continue to climb as we evolve and expand the program throughout our entire network."

In fact, as part of the hospital's efforts to meet Meaningful Use, 2014 Edition, Memorial's Physician Advisory Group has self-mandated a date of May 1, 2014, for the hospital to achieve 100 percent documentation compliance—a goal that would not be thought possible without the champion program.

"We depend on our champions to be the bridge between the clinical staff and IT," says Dahl. "They are front-line support any time clinicians have questions or issues, and we'll continue to rely on their support as we work toward our 2014 deadline."

Advancing IT Adoption While Maintaining Focus on Patient Care

As Memorial's leaders consider how the hospital will continue to leverage IT systems and evolve in the future, it is clear that the champion program will play an integral part in that evolution. For example, there have already been preliminary discussions about expanding the program to the hospital's outpatient clinics as budgets allow, and training students to provide champion-level support during off shifts (e.g., weekends).

"I believe the champion program has worked so well for us because it helped initiate a complete culture change at [Memorial]," says Dahl. "Rather than fighting change, our staff now feels a collective ownership of the IT systems and processes around them, and there is a new sense of integration and collaboration among the different disciplines."

Reflecting on the program, Kautzman believes two factors were integral to its success: vision and having the right people in the champion role. "This wouldn't have worked if we didn't have executive buy-in from day one and a top-down vision for how to carry it out," he says.

"We also needed involvement from nurses functioning at the upper level of their practice," he concludes. "Our champions are front-line care providers and technology evangelists positioning the organization for greater usage and adoption of IT—and they do all of this while maintaining a clear focus on improving patient care and safety."

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