West Florida Hospital Uses Sentri7® to Tackle Key Measures in Line with The Joint Commission’s National Patient Safety Goals

EXECUTIVE SUMMARY

**Problem:** West Florida Hospital was looking for a way to manage pharmacist anticoagulation activities in order to improve compliance with The Joint Commission’s National Patient Safety Goal 03.05.01, as well as manage other clinical pharmacy initiatives.

**Solution:** The hospital system implemented Sentri7,® a clinical data surveillance application.

**Results:** Sentri7 has decreased the amount of redundant monitoring performed by the pharmacists. This has enabled them to increase their focus on NPSG 3 and other nationally-endorsed safety initiatives. They have moved their clinical pharmacy activities to a completely paperless process.

**Conclusion:** The integration of Sentri7 into West Florida Hospital's pharmacy programs has improved the efficiency and productivity of the department and as a consequence has driven gains in quality of the care provided.

**BACKGROUND:** West Florida Hospital

West Florida Healthcare is proud to be the only hospital in the area to offer all-private rooms as well as the area’s only Accredited Chest Pain Center. The facility is also an Advanced Primary Stroke Center and is the area’s only accredited Breast Imaging Center of Excellence. The West Florida Healthcare campus includes the all-private-room acute care hospital, the area’s only comprehensive physical rehabilitation hospital, a mental health facility and a cancer center. Affiliated with HCA, the nation’s leading provider of healthcare, West Florida Healthcare

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cases of heparin-induced thrombocytopenia based on platelet values.

West Florida Hospital also utilizes Sentri7 as a decision support tool by incorporating standardized information into the “Suggested Actions” section provided with all Sentri7 rules. This functionality allows administrators to provide links to a specific website, care protocol or a medication use policy that provides the staff with guidance regarding the most appropriate clinical and/or cost-effective decisions.
This consistency in care processes can help with care efficiency and with the improvement of compliance with regulatory requirements such as The Joint Commission safety goals and CMS Core Measures.

**Antibiotic monitoring**

West Florida Hospital is initiating an Antimicrobial Management Program (AMP). The initial areas of focus are appropriate use of high-cost antibiotics, as well as people who are on antibiotics greater than 10 days. Sentri7 will be used to quickly identify patients who fall into either of these use areas. The hospital has also been able to utilize Sentri7 to initiate a new antibiotic pilot for obtaining clinical indications for antibiotic therapeutic options.

The AMP pharmacists use Sentri7 to ensure appropriate MRSA treatment. According to Cyr, “Published literature suggests that MRSA cultures with an MIC of 2 or greater may indicate that an alternative to vancomycin should be considered. Sentri7 can identify the patients on vancomycin that have a Staph aureus isolate with an MIC ≥ 2. The plan is for pharmacists to review the cases to see if adequate vancomycin trough levels (i.e., > 10) are achieved via appropriate dosing or if the patients were switched to a vancomycin alternative. The outcomes from these cases will be tracked and the AMP team will determine if appropriate care decisions were made (i.e., sub-therapeutic dosing versus true therapeutic failure).”

“With vancomycin and aminoglycoside monitoring, it’s been very helpful to pinpoint those specific patients who we have to act on,” said Cyr. “Sentri7 helps us find those patients with a vancomycin trough less than 10 or greater than 20… instead of looking at 15 patients, we’re looking at two or three. It’s really helped the pharmacists to quickly look over and say, ‘These are the ones I definitely need to do today.’”

Sentri7 also assists the AMP team by monitoring for patients with *C. difficle* infections. Data regarding positive toxin cultures or *C. diff* antigen studies can be collected along with other notable information, such as whether patients are currently or were previously on antibiotics, and if so, which antibiotics.

Sentri7 has allowed the infectious disease physician, the physician champion, and pharmacy lead to quickly identify key patients to focus on for antibiotic rounds.

**Core measures**

West Florida Hospital is also using Sentri7 to track CMS Core Measures performance, particularly for AMI (acute myocardial infarction). Cyr says they were previously missing opportunities to ensure appropriate care by not identifying patients with AMI.

Staff members are now using Sentri7 to track troponin levels as a surrogate marker for AMI and they are now catching many more patients. Sentri7 allows staff to act on those patients sooner rather than later and alert the physicians to recommend the appropriate therapy.

The quality department also uses Sentri7 with Core Measure related to pneumococcal and influenza vaccinations, as well as AMI and heart failure.

Diabetes educators are looking to Sentri7 to identify patients with low blood sugars or those with a blood sugar greater than 180 to improve on their glycemic control goals.

**Other pharmacy initiatives**

Sentri7 is monitoring the use of high cost drugs, like erythropoietin stimulating agents (ESAs). “Utilizing Sentri7 to monitor our ESA use, we have documented interventions leading to approximately $4,000 in Procrit cost savings this year,” said Cyr.

The pharmacist team also uses Sentri7 to manage dosing in accordance with a patient’s renal function. If a serum creatinine value changes 25 percent either upward or downward within 24-48 hours, it alerts the pharmacists that something needs to be adjusted. There was not an easy way to address renal dosing in the past, so this has implemented an entirely new clinical program for the pharmacists.

One novel Sentri7 rule used in the critical care area, identifies patients on propofol without regular (i.e., every 72 hour) triglyceride levels. Poor compliance with this care process prompted changes to order forms to make sure that those levels are being done consistently.

Cyr has built a rule in Sentri7 to ensure appropriate administration for “do not crush” medications. If a patient has medications on their profile via PEG or feeding tubes and a medication that should not be crushed, like metoprolol XL, is ordered, Sentri7 picks those patients out and allows the pharmacist to make recommendations for medication formulation changes more appropriate for that patient.
RESULTS

Performance

Sentri7 users have previously reported increases in interventions of 100-200% compared to pre-implementation. The West Florida Hospital experience appears similar.

“Prior to the implementation of Sentri7 we averaged approximately $2,800 per month in cost savings for renal dose interventions and $4,100 per month in antibiotic-related interventions,” said Cyr. “In 2011 we are averaging $6,300 per month for renal dose interventions and $11,800 per month for antibiotic interventions. We have approximately $79,000 in renal dose cost savings and $132,000 in antibiotic cost savings total for 2011. Total cost savings for 2011 is $478,000.”

Efficiency

The response from the pharmacy staff has been positive. Sentri7 has allowed them to move completely away from their previous paper-based anticoagulation monitoring system. It has also cut down significantly on the amount of time they spend on anticoagulation. Whereas, before the pharmacists were spending time finding and documenting labs results and attempting to perform trending for drug-lab results, now the system’s taking care of that monitoring in the background, allowing them to focus on meaningful interventions.

“It really helps pharmacists out, particularly on the weekends when your staffing has been streamlined and you have less people here to do a large portion of the work,” Cyr said.

Consistency

Cyr said the dashboards in Sentri7 have been very helpful because all pharmacists are now looking at the issues in a similar manner. Because of this, pharmacist recommendations can be easily directed and standardized. The workflow is streamlined from using a lot of paper to using the system to help focus on the patients who truly require attention.

CONCLUSION

The integration of Sentri7 into West Florida Hospital’s pharmacy programs has improved the efficiency and productivity of the department, and as a consequence has driven gains in the quality of the care provided.

Cyr says, “The number of variables that you can look at, the number of meds you can look at, it’s unbelievable. There’s just so much you can do to improve quality, patient safety and improve outcomes, which is ultimately what every hospital should be aiming toward accomplishing—every pharmacist, every nurse, every physician. That’s what Sentri7 allows you to do.”