

A real-time alert system for cardiac patients, helps MedCentral save lives and improve patient care

About MedCentral

MedCentral in OhioHealth, is an acute cardiac facility, and the largest medical provider between Cleveland and Columbus. With a focus on becoming a recognized leader in healthcare quality, MedCentral is constantly looking at ways in which it can provide faster and more effective patient-centric services.

The challenge

With a high volume of patients in need of life saving treatments, it is critical that MedCentral is able to identify any changes in a patient's condition as quickly as possible.

One of the ways in which MedCentral was looking to achieve this was to improve the speed and accuracy in the testing and reporting of patient's Troponin levels. Troponin is a cardiac protein which is a biomarker of heart disorders, including myocardial infarction (heart attack) where immediate intervention is required. The medical staff at MedCentral required communication of this information in real-time so that therapy review could commence immediately.

PKS solution

MedCentral engaged Pacific Knowledge Systems (PKS) to implement RippleDown solution – which automates the unique human decision making process that is critical to a laboratory – to automatically alert clinician's to diagnostic anomalies in their patient's Troponin levels. This means that alerts are only sent when a significant event occurs with a patient; removing any unnecessary or repetitive alerts to build greater satisfaction with clinicians.

With a significant portion of clinical decisions based on or influenced by laboratory results, it was critical that analysis and reports from the laboratory were not only flawless and fast, but delivered in a manner that clinicians could easily interpret and understand. With the RippleDown solution, not only is all relevant information aggregated and interpreted, including a patient's medical history, alerts are delivered in real-time, enabling better diagnosis and treatment.

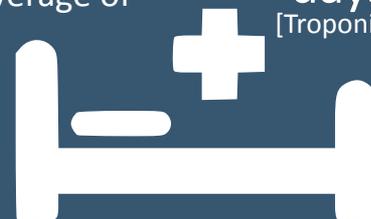
At a glance...

Acute cardiac facility in Ohio and the largest medical provider between Cleveland and Columbus



 **52%** decrease in testing

Bed stays have reduced by an average of **1.72** days [Troponin]



Real-time, relevant patient alerts



Average hospital savings per patient

= \$9,849.50 per year

“In addition to the lower readmission rates, we also reduced bed stays by an average of 1.72 days, which we conservatively estimate saves \$300,000 (net) per annum.”

Dr Eugenio Zabaleta

The RippleDown solution was able to integrate with multiple IT and data repository systems in MedCentral, which enabled information to be captured and analyzed from multiple sources and then reported to the relevant clinical staff and hospital departments simultaneously. The flexibility of the solution also allowed for local business variations – such as different facility locations and doctor preferences.

Given RippleDown can be managed by domain experts, as opposed to IT, the clinicians working within the MedCentral laboratories are now also able to directly manage and control the system, enabling a higher volume of decisions to be made with absolute accuracy.

Outcome

Through the RippleDown solution, MedCentral have seen significant improvements in patient care and operational efficiencies, as well as substantial cost savings and improvements to communications between hospital services.

Specifically, MedCentral have been able to lower readmission rates, and reduce bed stays by an average of 1.72 days, which has delivered net savings to the hospital of at least \$300,000 USD per year.

About PKS

Pacific Knowledge Systems (PKS) works with healthcare organizations around the world to better capture, manage and leverage their human expertise to improve the performance of their business and deliver better patient outcomes.

PKS owns a patented, new generation clinical expert intelligence system – RippleDown – which integrates patient data with a knowledge base that is managed by clinical domain experts, to deliver patient-specific reports, recommendation and alerts.