Case Study

Tegria

UMC – Southern Nevada Develops Real-Time Monitoring Tools to Improve Patient Outcomes & Reduce Penalties

Background and Challenge

University Medical Center – Southern Nevada (UMC) is a non-profit government hospital in Las Vegas. As Nevada's only Level I Trauma Center, designated Pediatric Trauma Center, Burn Care Center, and Center for Transplantation, UMC plays a critical part in caring for the sickest and most underserved communities in Las Vegas.

A year after going live on Epic on an accelerated schedule in October 2017, UMC needed to focus on stabilizing core workflows to ensure clinical scalability and financial success.

Clinical leadership had little time to focus on critical nursing documentation improvement, implementing newer features, or experimenting with predictive analytics, all of which had the potential to save even more lives at UMC and save more time for nursing staff.

Key workflows and build were not leveraging efficiencies of the system, so clinical optimization and stabilization efforts were necessary to ensure future success.

Solution

Comprehensive Epic stabilization projects are inherently integrated, so UMC looked for a partner that could provide the perfect blend of leadership guidance, clinical expertise, and skilled support while maintaining focused governance to keep scope and goals aligned. An integrated team of Tegria clinical documentation experts, a CNIO, and experienced Managed Services analysts prioritized initiatives based on an initial assessment and got to work in October 2018 with their sights set on the following:

- Creating operational and technical solutions for disease specific programs
- Developing real-time patient safety monitoring methodologies to promote better outcomes and reduce penalties
- Improving documentation efficiency and regulatory metric workflows and reporting

Execution

Nursing Documentation Improvement + Regulatory Quality

UMC had untapped potential for enhancing nursing documentation and regulatory quality workflows and system build.

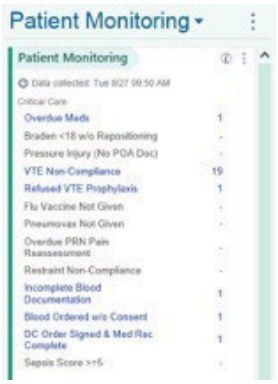
connect@tegria.com tegria.com

Creating solutions for disease specific programs

We started by tackling the issue that was most widespread. We began by creating an end-to-end workflow and toolset to make use of Epic's Sepsis Predictive Model for adults to reduce end user alert fatigue and clinician frustration. Our goal was to make the workflow more user friendly, more accurate in predicting patient risk levels, and more adept at promoting the most accurate path of care based upon patient presentation.

We then worked with Trauma Services to create a toolset that allowed nursing informaticists to track key aspects of patient care related to stroke and chest pain. This not only allowed them to easily review and address the level of care being provided, but it also gave them a means of tracking compliance for certain regulatory guidelines.

Developing real-time monitoring dashboards and a comprehensive clinical decision support program



UMC then went to work to optimize their decision support tools and optimize them for clinicians' needs. Before drilling down into specific tools based on niche user types, UMC created web-based dashboards outside of Hyperspace for leadership's use to help guide the organization's most critical decisions. The dashboards include information on quality metrics, patient throughput, revenue, and patient outcomes.

One level beneath the executive data, UMC prioritized additional dashboards to allow bed planners, case management users, and hospital leadership to monitor patient throughput and review metrics related to occupancy rates, EVS requests, and time spent in observation. These dashboards and drilldown reports address many requests from leadership for insight into areas such as ED throughput, bed utilization, discharge planning, and time in observation. The increased visibility helps with bed management and highlights bottlenecks in the system.

Additionally, UMC created a sidebar dashboard for clinical supervisors and quality users for an at-a-glance overview of charting deficiencies pertaining to regulatory metrics, such as VTE prevention and restraint compliance. This tool helps nursing leadership track and address areas where users are currently struggling to meet regulatory standards.

Improving documentation efficiency and regulatory metrics workflow and reporting

Next, UMC implemented Patient Safety Indicators (PSI) and Hospital Acquired Conditions (HAC) system lists allowing for Quality to review patient safety events in real time. UMC's Value Based Purchasing reduction that resulted from PSI and HAC penalties came in at $875,000 and $765,090 in consecutive years. By improving their PSI and HAC rates, UMC now predicts a reduction of those penalties and improved patient safety.

UMC also updated the mapping and build related to electronic clinical quality measures (eCQM), allowing for the accurate reflection of performance through Epic reporting on all measures. We also built out additional tools to help prompt users to take the right steps toward compliance, such as:

- System lists, columns, and reports that allowed RTs to assess VAE prevention compliance

and compliance for ventilated patients
- Patient monitoring tools for trauma services that address charting deficiencies for stroke and chest pain patients

Clinical Application Optimization

UMCs ED Facility Charge Calculator ("FCC") was not correctly calculating ED Level of Care charges. The FCC was rebuilt to facilitate faster and more accurate charging for ED patients by defining appropriate charging methods.

The rebuild resulted in $271k Maximum Protected in annual net revenue improvement based on $1.424M gross revenue. UMC now charges for ED levels using a consistent, automated, and defensible methodology that reduces the burden of review on nursing and coding staff.

We also provided various additional clinical outcomes, including:

- Exploring various clinical governance structures, including a Nursing Advisory Council, Service Line Nursing Advisory Panels, and a Clinical Informatics Council.
- Creating a new Downtime process by facilitating an integrated group to review and update new Epic downtime policies. This group implemented Epic best practice downtime processes and functionality.

Nursing Documentation Improvement + Regulatory Quality Phase II

Continued work surrounding nursing documentation and regulatory quality with similar areas of focus as phase I:

Updates to infection control initiatives related to CLABSI, CAUTI, VAE, and C. diff

One of the main objectives of phase II was focused on enhancing build related to infection control. Some of the existing issues included the inability to efficiently report line days to the NHSN, inaccuracies regarding reported vent days, and an overuse of C. diff testing.

UMC identified issues with their ICON mapping that skewed the reporting for line and vent days. Once updated, UMC was able to match up the Epic reported data with their manual counts and finally validate the numbers being returned in their Epic reports.

UMC also created a customized BPA that helped identify patients that failed to meet certain criteria necessary for C. diff testing, allowing them to reduce the number of inappropriate C. diff testing orders bogging down their lab.

Development of the pediatric sepsis early identification system and workflow

In addition to the adult system implementation, UMC also placed an emphasis on building out an early identification process for pediatric sepsis. Like the adult program, this solution provided real-time analysis of patients' risk scores and recommended follow-up actions as necessary. The main differences being a workflow that matched the needs of their department and evaluation criteria that worked with their patient population.

Case Study

Tegria

Implementation of Executive Web Dashboards

After implementing solutions for several key quality metrics, UMC shifted to the high-level data points, such as Executive Web Dashboards for the entire C-suite and several individuals in clinical leadership positions. These dashboards created a singular workspace to access critical performance metrics without even opening Hyperspace and contained clinical, operational, and financial data.

The dashboards were intuitive for the executive audience in that they could slice and dice data without running customized reports. To make it even easier, UMC employed the use of large monitors to display the data within the C-suite office space. This not only made the data available, but increased leadership's awareness.

Outcomes Summary

Goals

CREATE

Create solutions for certain disease specific programs

We created customized toolsets within Epic designed to promote standards of care for certain patient populations including stroke, chest pain, and sepsis.

DEVELOP

Develop real-time monitoring to improve patient outcomes and reduce penalties

We implemented numerous pieces of Epic functionality that will help UMC proactively address deficiencies in patient care. including stroke, chest pain, and sepsis.

IMPROVE

Improve documentation efficiency and regulatory metric reporting

We analyzed existing strategies related to clinical metric performance, identified opportunities for improvement, and developed both technical and operational solutions for metrics including eCQMs, PSIs, and HACs.

Case Study

Tegria

Summary

University Medical Center-Southern Nevada's mission is "to serve our community by providing patient-centered care in a fiscally responsible and learning-focused environment." As witnessed above, this organization plays a critical part in caring for the sickest and most underserved communities in the Las Vegas area. Improving their ability to save lives and achieve the financial freedom to expand their mission drove every part of Tegria's engagement, including:

- Saving lives through analytics
- Ceducing waste from avoidable payer penalties through enhanced system functionality
- Educating staff on Epic best practices and ensuring their ability to run critical reports

By tapping into a partner that specializes across the strategy, delivery, and support spectrum, UMC was able to maximize their use of Epic, make staff more efficient, increase patient safety, and generate return on their powerful Epic system.

> At one glance we can see compliance from staff on VAE bundle, weaning, charting and billing compliance. It is very comprehensive and has cut down hours of work that we were doing previously looking in multiple charts to find this data. We are also able to get more reliable vent days data - without spending hours manually gathering the data.
>
> — Alicia Jones, Director, Respiratory Services

> [Tegria] has worked exceptionally effectively getting Epic to pull the data quickly and manageably to allow me to spend more time improving patient outcomes on my unit.
>
> — Jean Zlomke, CWJICAL Supervisor

> Thank you so much for always producing quality work in a short turnaround time. You are making a direct impact on the lives of many patients and improving the outcomes of their care.
>
> — Darlene Yasharian, OTR/L, MBA

> ...streamlining our processes and improving added builds to the current environment has been helpful in completing our everyday tasks and increasing our ability to closely monitor our staff productivity and efficiency, as well as to provide a means to cross check information that has been difficult to obtain previously.
>
> — Bambi Patterson, MCD CCC/SLP

connect@tegria.com tegria.com