

Title:

Reducing Sepsis Mortality: A Quality Improvement Initiative, Leveraging Technology to Empower Nurses

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References:

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Abstract Summary:

Sepsis is a global health phenomenon: it does not discriminate! It is a complex inflammatory process that can outfox the most expert clinicians. Find out how to tame sepsis by leveraging technology to empower nurses to advocate early intervention and lead the interprofessional team to save tissue and lives.

Learning Activity:

LEARNING OBJECTIVES	EXPANDED CONTENT OUTLINE
The learner will be able to remember that nurses have a crucial advocacy role in the early identification and intervention of sepsis	Implications for Practice outlines the Technology and Protocol that empowers RN's to critically think and initiate proactive treatment
The learner will be able to understand how the Clinical Decision Support and Clinical	The Visio entitled Clinical Decision Support & Clinical Workflow visually represents how the

Workflow guides roles and responsibilities of the interprofessional team

Electronic Health Record system alerts the nurse and provider

Abstract Text:

Purpose: This poster will outline the improvement initiative to reduce sepsis mortality by utilizing a canned commercial sepsis recognition technology package and how by customizing and tailoring created a better fit to empower nurses and clinicians at the bedside. This customization is revealed on the Visio: outlines the workflow, demonstrates how clinical decision support (CDS) tools in the electronic health record (EHR) facilitate early recognition of sepsis, and structures the nurse-led team approach to evidenced based treatment of sepsis to reduce mortality and improve patient outcomes. **Relevance/Significance:** Sepsis is a silent global killer: it is recognized as the leading cause of preventable death by the Global Sepsis Alliance (2017): their goal is to reduce the global incidence of sepsis by 20% by the year 2020. Sepsis contributes to 52% of all hospital mortalities in the USA (Liu, et al., 2014). Individual states in the US reflected on their burden: state hospital associations created action plans and some states aligned with the Surviving Sepsis Campaign (SSC). In New Jersey, The NJ Hospital Association (NJHA) acknowledged that the average sepsis mortality rate in NJ was approximately 32%. At a county level the outcomes were found to be comparable to the state average and hospitals elected to rapidly implement the evidenced-based practice (EBP) recommendations of the national SSC. This was a tipping point that resulted in researching what technology could offer to tame sepsis. A canned package was purchased that promised to improve early detection that would be a good fit for the forward thinking plan to implement pro-active resuscitative treatment plans to save tissue and decrease mortality in hospital patients. The SSC aligns with The Centers for Medicare and Medicaid Services (CMS) Sep - 1 measure for assessing quality of sepsis care in hospitals: this campaign was a timely motivator to revolutionize a not-for-profit community hospital's approach to better serve its predominantly Medicare/Medicare population. **Strategy and Implementation:** In 2015 a Plan-Do-Check-Act (PDCA) interprofessional team was formed with a goal to reduce mortality by 20%. The McGonigle & Mastrian's (2009) Foundation of Knowledge model provided the theoretical framework that underpinned the EBP strategy and implementation of the work. Cerner St. John's Sepsis CDS tool was integrated into the EHR and this was subsequently enriched by nursing informatics and tailored to the needs of clinicians: the algorithm mines patient data for sepsis criteria and when met fires an initial sepsis alert to the nurse assigned as the primary care nurse. This guides critical thinking and places the nurse in a lead advocacy role to take a proactive and comprehensive approach to resuscitative treatment by using the CDS tools, protocols and templates. Every month quality management (QM) abstract 30 randomized charts as per the CMS SEP-1 measure algorithm: the results are reported back to the interprofessional sepsis team. Cases that pass are celebrated and the team recognized; and cases that fail result in a deeper dive to identify process issues and discover opportunities. This is a continuous performance improvement initiative. **Results/Evaluation:** QM abstracts 30 randomized charts a month that are coded as sepsis, severe sepsis and severe sepsis with and without septic shock. Utilization of the CMS SEP-1 algorithm via Nuance (third party database) guides the abstraction and identifies if the case passes or fails the measure. This data is automatically transmitted by Nuance to CMS (no financial penalties but data collated for expected publication on Hospital Compare in 2017/2018). In the time period 2nd Quarter 2015 - 2nd Quarter 2016: the evaluation cycle for the PDCA identified the following outcomes: 1) Nationally: one of 258 hospitals recognized by Healthgrades as a distinguished hospital of clinical excellence in 2017, based upon mortality sepsis survival statistics from 2013 through 2015 for Medicare patients - there is a lower risk (30.5%) of a patient dying from sepsis at a distinguished hospital; and sepsis coding data transmitted to a third party Premier national database resulted in a ratio for the observed to expected cases continuing to trend down and met top performer trends for sepsis mortality; 2) State: passing/failing the sepsis order bundle and survival data is submitted monthly to the NJHA Sepsis Collaborative and resulted in ranking below NJ state average for severe sepsis-shock mortality rate; Internally: celebrated PDCA goal was met and exceeded the mortality goal to decrease mortality by 20% (decreased mortality by 23.41%); and to continue the momentum: validation of the screening tools and protocols verified that the early recognition alerts are 78% accurate in diagnosing sepsis; and provide evidence of Gawande's (2010) and Girbes, Robert, and Marik's (2015) findings that outcomes are improved by grouping tasks and increasing teamwork - both grouping tasks into protocols

and order sets, and increasing interprofessional team collaboration through clear verbal and written communications resulted in a doubled rate of engagement to order set bundles and templates with subsequent early recognition and aggressive treatment of sepsis before it morphed into severe sepsis or septic shock. **Implications for Practice:** Empowers RN's to critically think; enhances interprofessional practice and guides transitions of care: working in partnership to save tissue and lives.