ABSTRACT

The Early Warning Sepsis and Septic Shock Bundles at UMC El Paso focused on best practice, interdisciplinary education, consistent reinforcement and modification of the EMR to address sepsis. Statistical analysis of early warning signs to include patients throughout the care continuum lead to modifications and custom build in the EMR system to include integration of both the 3-hour & 6-hour Bundles with a team approach throughout the care continuum. AMS (Antimicrobial Stewardship) guidelines were incorporated in the EMR build. A retrospective and concurrent review of EMR documentation and follow-up showed a marked increase (up to and exceeding 50% in early identification of sepsis). The goal to decrease deaths for patients presenting with sepsis was accomplished (zero deaths related to sepsis).

CHANGE MANAGEMENT & IMPLEMENTATION

- Identifying a need for change
- Modifications in the EMR- interdisciplinary approach
- Data Analysis Validation
- Continuous Improvement Process

 Situation/Backgro 		SITUAT	ION				
Assessment						Assessment	
 Recommendation 	Current Category of Sepsis Measure	Sepsis Confirmation	New Org (within p Creatinine Bilinubin >	an Dysfunction bast 48 hrs) d> 2.0 SBP < 90 OR MAP < 65 >> 2.0 PTT > 60 OR INR > 1.5 2.0 Acute Respiratory Failure	Sepsis Screen Segoe UI Vital Signs Temperature Oral: 37.3 DegC Peripheral Pulse Rate: 88 bpr Respiratory Rate: 19 breatha/		3 HOUR SEPSIS BUNDLE
	O Septic Shock		Platelets <	<100,000	Mean Arterial Pressure, Cuff. 2 Blood Pressure Extremity: LUE	76 mmHg (16:25) 31 LUCOSE SERUM: 82 mg/dL (10:25) E (16:25) WBC: 83 X 103/UL (10:30) Systolic Blood Pressure: 99 mmHg (16:25) Mean Arterial Pressure: 0.0ff: 76 mmHg (16:25) CREATINIE: 0.6 mg/dL Low (10:25)	3 Hour Blood Cultures
	Septic Shock	Clinical Impression	n		Values within the temp	ITOTAL BILIRUBIN: 0.4 mg/dL (10.25)	Complete Pending
	Lactate >= 4 Hypotension Physician Documentation	Segoe UI	• 9 • 🎲 🐰 🖻	88⊻/5≣≣∃	Total IVF Given (mL) Vent Settings	Assessments/Interventions Foky Output (mL)	
					Vasopressor(s) Require	d	6 HOUR SEPSIS BUNDLE
	Code Status				Isolation Required	Standard C Enteric Contact Aiborne Droplet Contact Special Drganism Contact # #	6 Hour IVF Re-Assessment
	Full code CM0 Modified CM0				Studies Pending		O Complete O Pending
		Backgro	ound		Source Control	O NA O Pending	
:	Sepsis Screen "Temperature > 38C or < 36C Yes "Heart Rate > 90 beats/min	No OF	Urine Preumonia Bilianu		10	THER PERTINENT FINDINGS/INTERVENTIONS	Other Recomendations:
	Tespiratory Rate >20 breaths/min WBC > 128, <4K, or >102 Bands "Suspected Infection	,	Skin/Bone/Wound Meningitis Endocarditis Jinknown		Segoe UI	- 9 - � \$ \$ B U / 5 ≣ Ξ	Segoe UI 👻 9
	Other Pertinent History/Medica	ations ③ & ☜ B 및 Z 등) E E 3				
							Accepting Provider:
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Nursing Informatics: Reducing Sepsis Deaths through an Integrated Interdisciplinary Approach to Care Deborah Chasco, DNP, CCRN-E, APRN, CNS University Medical Center of El Paso

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TATUS OF 3 HOUR AND 6	HOUR SEPSIS BUNDLES	5
Hour Antibiotics Given	3 Hour 1st Lactate	3 Hour: 30 mL/KG IVF
Complete Pending	C Complete O Pending	Ordered Infusing Complete
		C Caution (CHF/RF/LF)
Hour 2nd Lactate	6 Hour: Vasopressors	6 Hour: 3rd Lactate
Hour 2nd Lactate	6 Hour: Vasopressors	6 Hour: 3rd Lactate

		Assessment
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	Vital Signs Sepsis Vital Signs	Early Warning Alerts
	Temperature Oral: 37.3 DegC (16:25) Peripheral Pulse Rate: 88 bpm (16:25)	Temperature Oral: 37.3 DegC (16:25) Peripheral Pulse Rate: 88 bpm (16:25)
	Respiratory Rate: 19 breaths/minute (16:25)	Respiratory Rate: 19 breaths/minute (16:25)
	Blood Pressure Extremity: LUE (16:25)	WBC: 8.3 X 103/UL (10:30)
		Systolic Blood Pressure: 99 mmHg (16:25) Mean Arterial Pressure, Cuff: 76 mmHg (16:25)
		CREATININE: 0.6 mg/dL Low (10:25) TOTAL BILIRUBIN: 0.4 mg/dL (10:25)
	Values within the template are variable. You must	t document findings with each of the following fields.
	Vital Signs	
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	If Contraindication to 30mL/kg flui	d bolus, please describe.
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AIMS

- Improve patient outcomes by decreasing sepsis deaths to zero
- Improve clinical workflows to address Sepsis Bundle Core Measures
- Increase Compliance to meet and exceed Sepsis Core Measures through Nursing Informatics modifications in the EMR

References:

ANCC Critical Care Webinar Series. (2017). Updating Your Practice: The 2017 Sepsis Guidelines. https://www.aacn.org/docs/EventPlanning/WB0037/sepsis-g-and-a-512tiive.pc Institute for Healthcare Improvement. (2018). Plan-Do-Study-Act Worksheet. Mind Tools. (2018). Change Management: Making Organizational Change Happen Effectively. https://www.mindtools.com/pages/article/newPPM 87



INTERVENTIONS

- Customized modifications in Power Forms, Power Plans and Orders utilizing SBAR and PDSA
- Interdisciplinary team meetings weekly with stakeholders to include physicians, nursing, quality, administration, ancillary departments
- **Concurrent and Retrospective Data Review**
- Data aggregation and analysis with validation
- Simulation of Early Warning Sepsis and Septic Shock Bundles with laminated intervention sheets in each **Resuscitation Cart**
- Pre and Post Continuous Process Improvement



- Sepsis

FUTURE IMPROVEMENT MEASURES

- Continuous Process Improvement
- Predictive Analytics





 Initially at 14% compliance with all measures One year of Change Management and Continuous Improvement • Data Collection from January 2017 to March 2018 • Two Deaths related to Sepsis in Neuro ICU to Zero Deaths related to

Core SEP1 - Early Management Bundle, Severe Sepsis/Septic Shock

 Core SEPa - Severe Sepsis 3 Hour Bundle Core SEPb - Severe Sepsis 6 Hour Bundle Core SEPc - Septic Shock 3 Hour Bundle

58% to 71% 77% to 80% 87% to 95% 86% to 95%

Outpatient Indicators and Identification of Sepsis