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Project #50: Utilization of PIC Score to reduce ICU utilization in patients with chest injury

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AIM

To achieve 10% reduction in ICU utilization for chest injured patients at West Bloomfield Hospital, while maintaining 0% adverse event rate attributable to placement in a lower acuity setting within 12 months of implementation.

Plan: Current State

- Pre-implementation 58% of all patients with chest injury were initially admitted to the ICU.
- 26.8% of these admissions were in ICU for 24 hours or less indicating overtriage to ICU.
- A tool was needed to determine which patients truly required ICU-level care and admission.
- The Pain, Inspiration, Cough (PIC) scoring tool combined with Incentive Spirometer predictive value were selected as measurable indicators for disposition decision making.
- The step-down unit was previously a closed medical unit. Stakeholders were engaged to allow admission of chest injury patients under the trauma service with medicine consult.
- Plan presented to multidisciplinary teams at trauma operations.
- A University module created to educate nurses on care of the patient with chest injury and the new PIC scoring tool and protocol. APPs were also educated on the new protocol and scoring.
- Nurses were provided a smart-text phrase to document PIC scores in their notes. APPs added PIC score to their consult/progress note templates.

Do: Updated Guidelines

Guidelines were updated to include consideration of the PIC score in patient placement and as a clinical progress monitoring tool.

Additional care guidelines were updated for:

- Respiratory Therapy
- Pain Control
- PT/OT
- Geriatric Consult for all patients 65 and older
- Supportive Care consult for patients with multiple visits for falls
- Case Management for discharge planning
- Nursing assessments and care

PIC Scoring Tool

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PIC SCORE®

	3	4	5	6	7	8	9	10
STEP 1 PAIN Patient Reported, 0-10 Scale	STEP 2 INSPIRATION Incentive Spirometer (IS) Goal & Alert Volume Set by RT			STEP 3 COUGH Assessed by Bedside RN				
	IS Goal:			IS Alert:				
3 - Controlled (Pain Score 0-4)	4 - Above Goal Volume			3 - Strong				
2 - Moderate (Pain Score 5-7)	3 - Goal Volume			2 - Weak				
1 - Severe (Pain Score 8-10)	2 - Below Alert Volume			1 - Absent				
	1 - Unable To Perform							
Additional Notes:								

Check

- Admission disposition was tracked on all patients with chest injury.
- Initial and discharge PIC scores were tracked
- Compliance with the protocol was evaluated.
- Complication and mortality rates for PIC protocol patients was monitored.

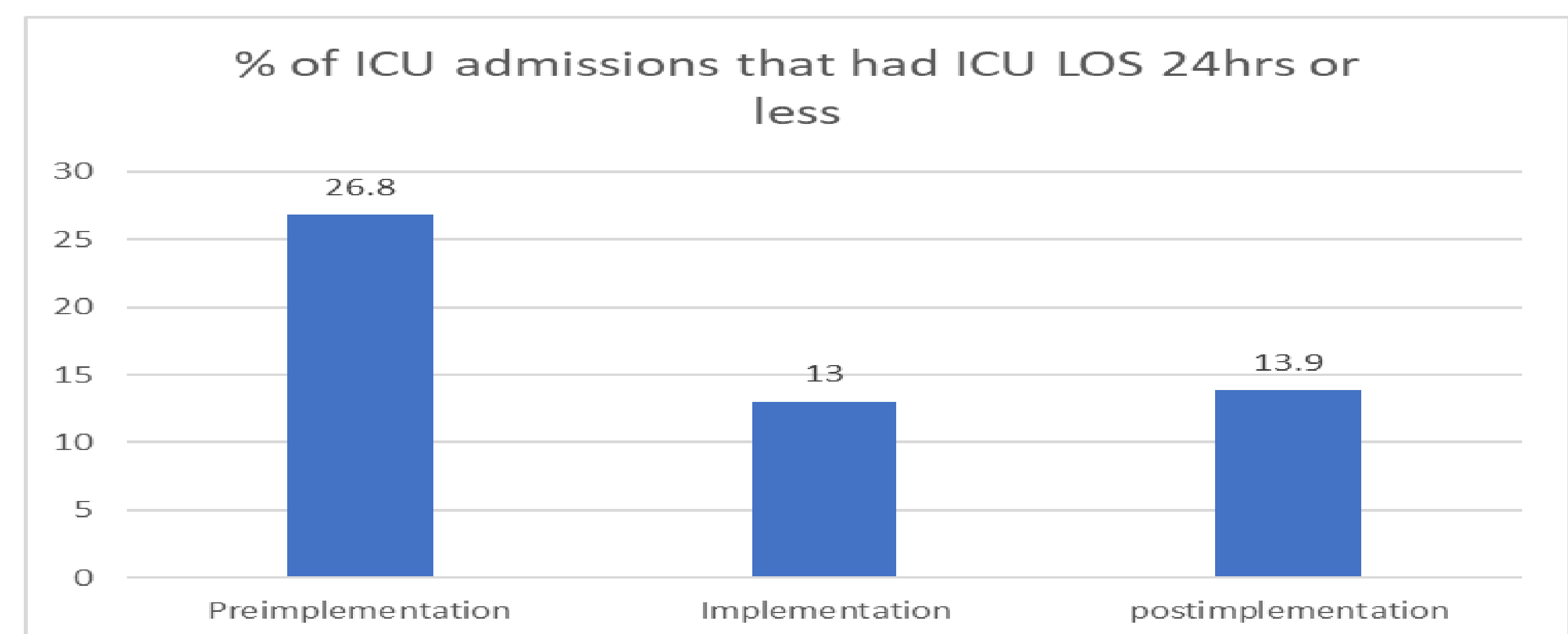
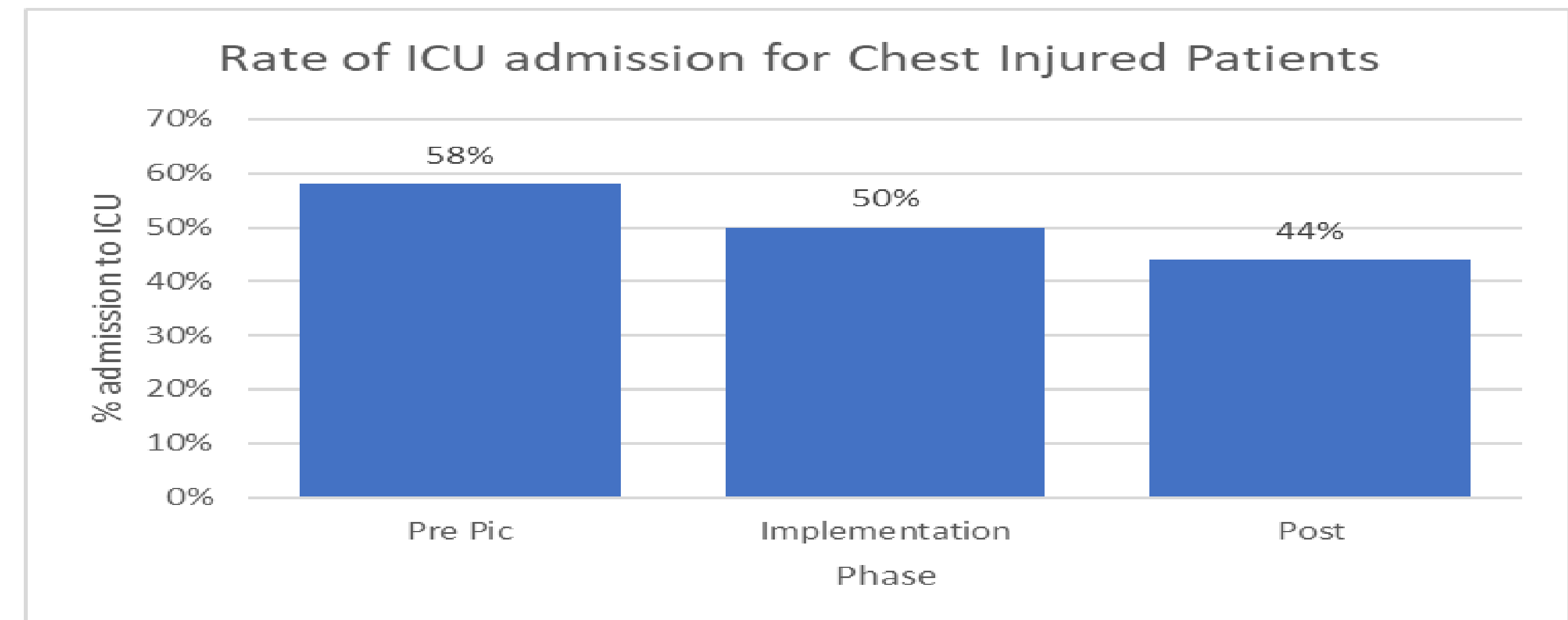
Act: Sustain

- Initial protocol compliance was low to improve this an EPIC enhancement was made to create a Chest Injury orderset and flowsheet rows for documentation. This improved protocol compliance significantly.
- Monitoring of protocol compliance and for any complications related to the protocol are ongoing.
- The protocol was shared at system Trauma town hall with the other HFHS trauma centers.

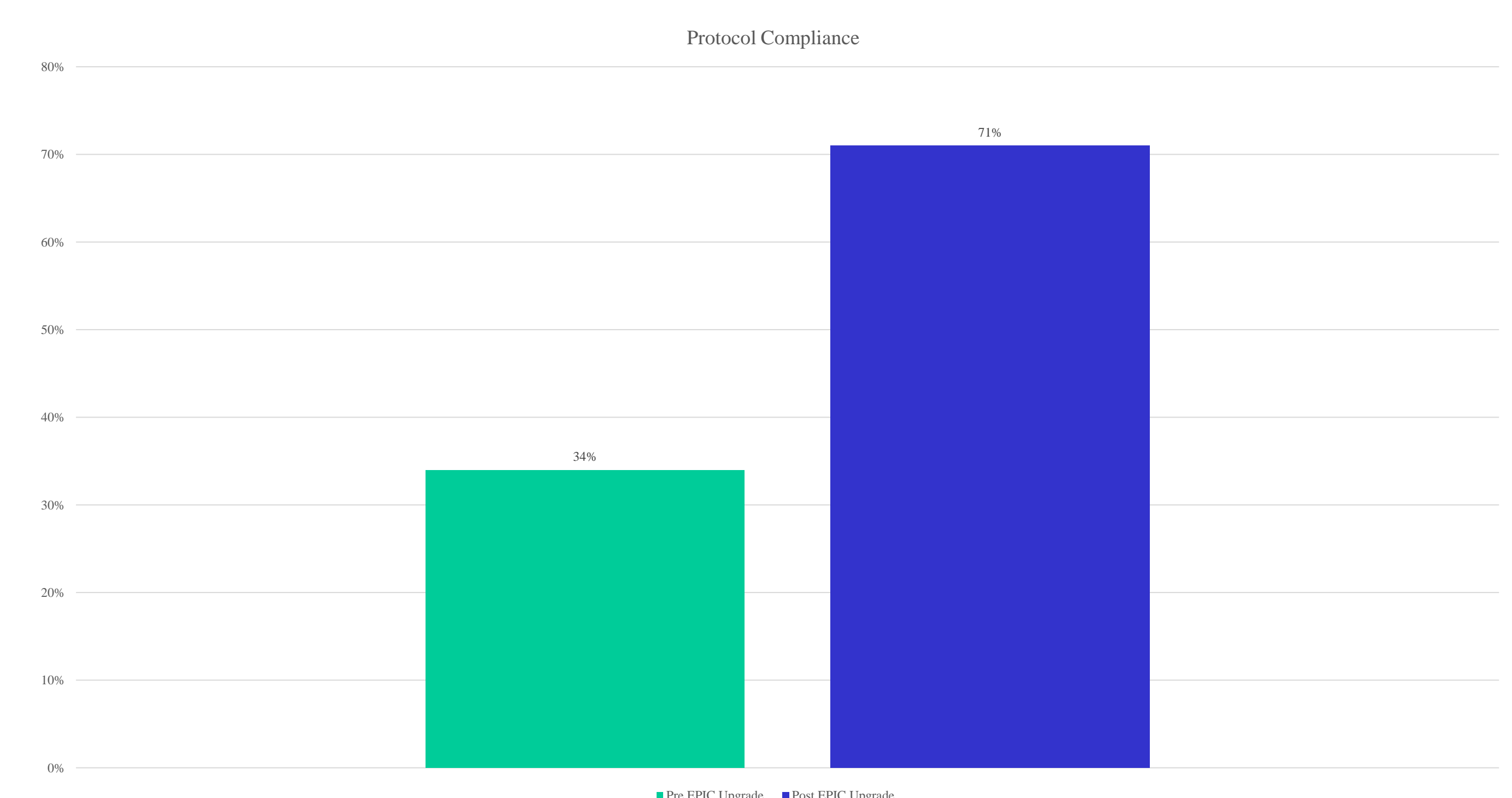
Lessons Learned

- Fewer patients with Chest Injury were admitted to the ICU as a result of using the PIC scoring tool and updated guidelines for admission to ICU.
- Attending providers reported increased satisfaction with ability to objectively assess chest injured patients and determine dispo due to the creation of a common language.
- Overall quality of care did not decline.
- There were no placement associated adverse events or mortalities post-implementation.
- Decreased ICU utilization resulted in avoidance of at least 128 ICU patient days, for a nursing unit direct cost savings of approximately \$93,000.

Results



No complications or mortality occurred related to chest injury on patients not admitted to ICU who followed the guidelines



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