

Improving ICU Liberation Bundle Documentation: A Quality Improvement Project

Arianna Barnes, Dr. Omeid Heidari, Dr. Marie Nolan



JOHNS HOPKINS
SCHOOL of NURSING

Background

Critical illness and admission to the intensive care unit (ICU) can be life saving but it can have life altering consequences after survival (Desai, Law, & Needham, 2011).



The ICU Liberation Bundle is adapted from guidelines for critical care management to address pain, agitation, delirium, immobility, and sleep disturbances in the ICU (Devlin et al, 2018; Posa, Singh, & Stollings, 2020).



The seven bundle elements are pain, spontaneous awakening trials/ spontaneous breathing trials, sedation, delirium, early mobility, family engagement, and good sleep. This bundle has been shown to liberate the patients from harm in the ICU (Barnes-Daly, Phillips, & Ely, 2017; Pun et al., 2019)



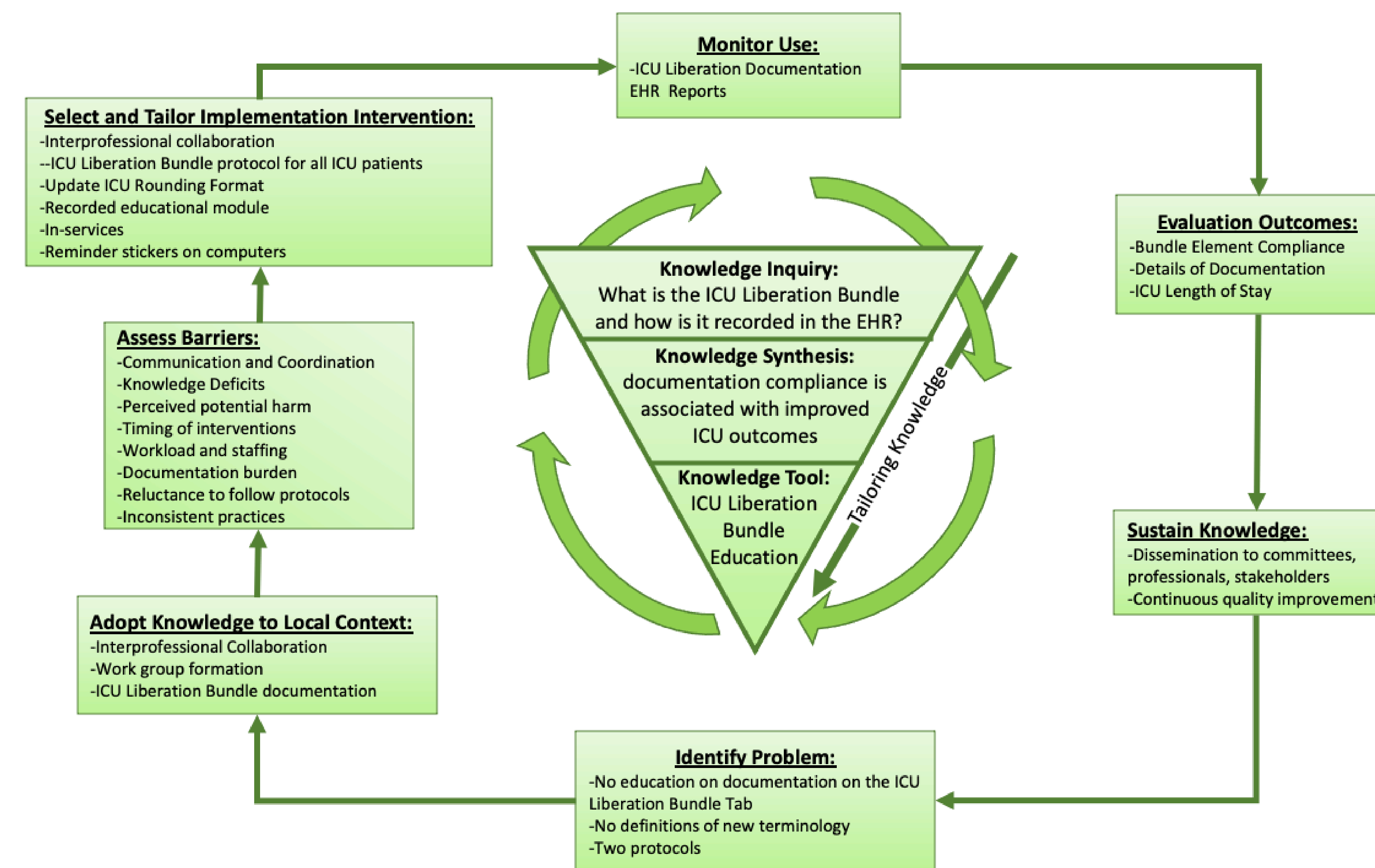
In 2021, there was a transition to a new electronic health record (EHR) system. Although there is a section to document on the ICU Liberation Bundle elements, the current protocol did not have consistent language and the ICU professionals did not receive education on documentation requirements.



Purpose

The purpose of the quality improvement project was to collaborate with the intensive care unit (ICU) professionals to develop an ICU Liberation Bundle protocol, and education to improve documentation and reduce ICU length of stay (LOS).

Methods



Based on the Knowledge to Action Framework (Graham et al., 2006)

Additional Information



Education Video



Project Overview and Results Video



Project References

Results

- 54 professionals (18% response rate) completed the education
- There was no statistically significant difference in the composition of the reports during the pre-and post-intervention data when analyzed with chi-squared tests.

ICU Liberation Elements	Oct 2021	Dec 2021	p value
Non ventilated patient bundle compliance, N	68	68	
Pain, n (%)	25 (36.8%)	26 (38.2%)	.859
Sedation, n (%)	52 (76.5%)	48 (70.6%)	.437
Delirium, n (%)	36 (52.9%)	35 (51.5%)	.864
Mobility, n (%)	28 (41.2%)	31 (45.6%)	.604
Family, n (%)	18 (26.5%)	42 (61.8%)	<.001

ICU Liberation Elements	Oct 2021	Dec 2021	p value
Ventilated Patient Bundle Compliance, N	49	36	
Pain, n (%)	33 (67.3%)	25 (69.4%)	.837
SAT, n (%)	8 (16.3%)	13 (35.1%)	.037
SBT, n (%)	18 (36.7%)	14 (38.9%)	.839
Sedation, n (%)	43 (87.8%)	28 (77.8%)	.220
Delirium, n (%)	20 (40.8%)	11 (30.6%)	.332
Mobility, n (%)	19 (38.8%)	17 (47.2%)	.436
Family, n (%)	32 (65.3%)	31 (86.1%)	.030

Elements Details	Oct 2021	Dec 2021	p value
SAT documentation, N	12	32	.281
No sedation Needed, n (%)	7 (58%)	24 (75%)	
Sedation Needed, n (%)	5 (42%)	8 (25%)	
SBT Documentation, N	21	33	.011
No ventilation needed, n (%)	6 (29%)	20 (61%)	
Ventilator needed, n (%)	17 (71%)	13 (39%)	
Delirium documentation, N	56	46	.740
Delirium absent, n (%)	41 (73%)	35 (76%)	
Delirium present, n (%)	15 (27%)	11 (24%)	
Mobility documentation, N	47	47	.018
In bed activity, n (%)	43 (91%)	34 (72%)	
Out of bed activity, n (%)	2 (4.5%)	7 (15%)	
Ambulation, n (%)	2 (4.5%)	6 (13%)	

- Average SICU LOS went from 3.43 days to 3.61 days.

Conclusions



The educational interventions were effective to change ICU Liberation Bundle documentation practices.



More professionals documented in the ICU Liberation tab in the EHR after the intervention.



The design of this QI project to improve ICU Liberation documentation was effective to obtain sufficient data to monitor and analyze documentation practices.