ABCs of Extubation Part 2
(increasing awareness of ABCDEF bundles)

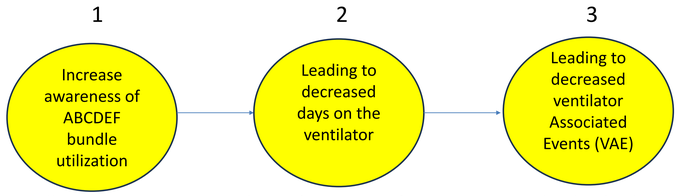
Authors: Michael Kaplan BSN, RN; Robin Ringler BSN, RN; Jacqueline Colli MSN, RN; Skip Katipunan BSN, RN, CIC; Ruby Agabas MSN, RN; Noreen Paz Gordon BSN, RN

UMC UNIVERSITY MEDICAL CENTER

BACKGROUND

The use of a mechanical ventilator is frequently utilized as a life-saving treatment modality in critical care; however, the therapy comes with infection risks including infection-related ventilator-associated conditions (IVAC) and possible ventilator-related pneumonia (PVAP). These complications cause worsening of the patient's respiratory status leading to longer days on the ventilator. Due to the increased IVACs/PVAPs in MICU above the predicted model, the previously introduced ABCDEF bundle will be reinforced with increased emphasis to help minimize the patient's intubation time and expedite their extubation as proficiently and safely as possible.

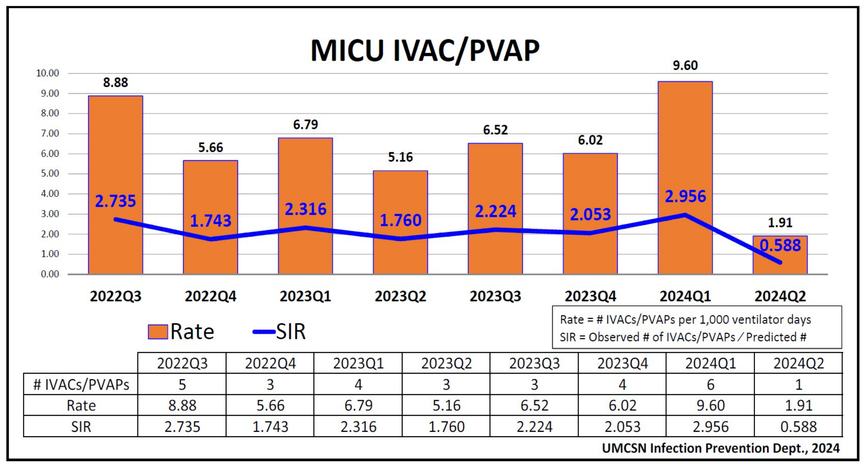
PURPOSE



Note: The MICU reports the VAEs to infection control which then reports these events to the National Health Care Safety Network (division of CDC). These VAEs are then tabulated with other similar hospital sized critical care units to come up with a Standard Infection Rate (SRI). The SRI is an expected infection rate per amount of vent utilization for a healthcare facility. The closer to an SRI of 1 the better!

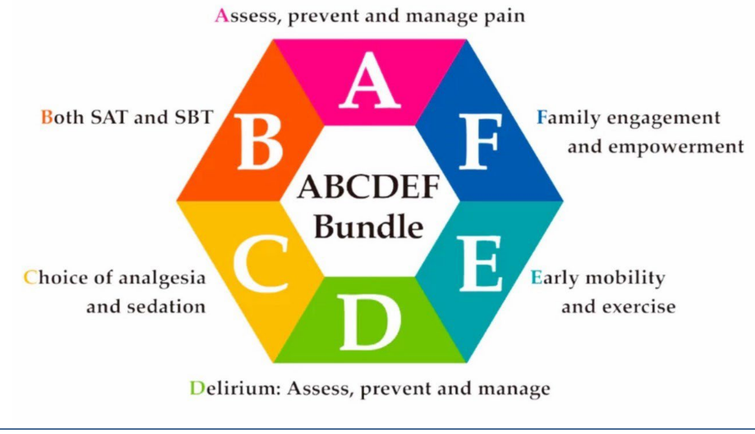
METHODS

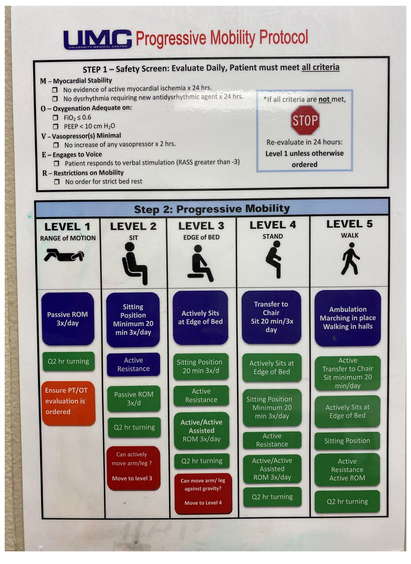
- Utilize the ABCDEF bundle awareness placard and reeducate staff on ABCDEF bundle charting
- Compare last 12 months (4 quarters) vent days, and IVACs with next 12 months IVACs plus vent days to see were improvements are needed.
- Work with shareholders from Physical Therapy, Infection Prevention and Respiratory Therapy at the start of patient intubation per physician order.
- Note: IVAC/PVAP data was collected using tiered surveillance definitions from the National Healthcare Safety Network (NHSN) for ventilator-associated events (VAE). The standardized infection ratios (SIR) is a the observed number of infections compared to the number of infections predicted, based on aggregated national-level data.

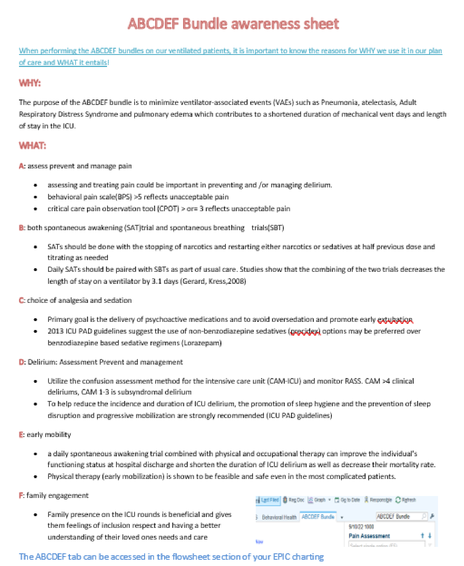


	2022Q3	2022Q4	2023Q1	2023Q2	2023Q3	2023Q4	2024Q1	2024Q2
# IVACs/PVAPs	5	3	4	3	3	4	6	1
Rate	8.88	5.66	6.79	5.16	6.52	6.02	9.60	1.91
SIR	2.735	1.743	2.316	1.760	2.224	2.053	2.956	0.588

UMCSN Infection Prevention Dept., 2024







RESULTS

We will continue to follow the data for rates and SIRs of IVACs/PVAPs and compare the pre-intervention period to the post-intervention period, assessing for trends and limitations. Evidence suggests that with the proper resources, including education and workflow adjustment, increased utilization of the ABCDEF bundle will contribute to a quicker path to extubation, ergo lowered risk for ventilator-related infections.

CONCLUSIONS

The utilization of the ABCDEF placard combined with the ABCDEF bundle tab over the next four quarters will have the desired effect of increased awareness in which patients will be extubated in less time than the previous four quarters. Quicker extubation, in-turn, should lower the risk for IVAC/PVAP infections by creating a safer critical care environment with decreased use of ventilators.

REFERENCES

Centers for Disease Control and Prevention (CDC). (2024). *Ventilator-Associated event (VAE)*. Retrieved September 17, 2024, from https://www.cdc.gov/nhsn/pdfs/pscmanual/10-vae_final.pdf

Green, M., Marzano, V., Leditschke, I. A., Mitchell, I., & Bissett, B. (2016). Mobilization of intensive care patients: A multidisciplinary practical guide for clinicians. *Journal of Multidisciplinary Healthcare*, *9*, 247–256. https://doi.org/10.2147/jmdh.s99811

National Healthcare Safety Network (NHSN). (2021). *The NHSN standardized infection ratio (SIR): A guide to the* SIR (based on the 2015 national baseline) updated March 2024. Retrieved September 17, 2024, from https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/nhsn-sir-guide.pdf

SlideShare. 2020. October31).ABCDEF bundle: *ICU Liberation Bundle*. SlideShare. http://www.slideshare.net/slideshow/abcdef-bundle-icu-liberation-bundle/239029630

UMCSN Infection Prevention Dept. (2024). *MICU IVAC/PVAP*. Modified from University Medical Center of Southern Nevada Infection Prevention Department.

https://www.sccm.org/getmedia/fdb48864-5670-462c-a650-70ca9dc38a73/ICULIB-Infographic-Final?width=386&height=500

PATHWAY DESIGNATED
AMERICAN NURSES CREDENTIALING CENTER