

Leveraging the Vascular Access Specialty Team to Promote a Culture of Safety, Harm and Cost Reduction

Background

The Vascular Access Specialty Team (VAST) receives an average of 240 vascular access consult orders for PICCs or Midlines monthly. An average of 65 inappropriate consults for PICCs or Midlines are prematurely escalated due to the failure to establish peripheral intravenous (PIV) access. By leveraging the vascular access specialty team, the least invasive and most appropriate vascular access device can be recommended and placed to meet the needs of patients. VAST members are board-certified and equipped to provide consultation for the most appropriate device and maintain first-time success with device insertion.

In 2022, the VAST placed a monthly average of 155 peripherally inserted central catheters (PICCs), 21 Midlines, and 183 ultrasound guided peripheral intravenous catheters (USGPIVs). VAST conducts a thorough chart review for all vascular access device (VAD) insertion orders and makes recommendations based on clinical indication, duration of treatment, infusion therapy, and appropriateness.

Parnassus Vascular Access Team Flowsheet Summary Report 2022												
Total Monthly Insertions by Line Type												
	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22
Number of PICC Insertions	158	141	163	157	185	138	163	157	148	144	167	134
Number of Midline Insertions	16	18	21	15	23	19	23	26	22	25	20	18
Number of USGPV Insertions	285	244	260	207	206	193	170	148	94	129	108	148

In 2022, VAST course corrected a monthly average of 65 consult orders for PICCs by recommending the most appropriate VAD and reducing harm by placing Midlines or USGPIVs that may have led to a potential reduction and avoidance of central line associated blood stream infection (CLABSI) and venous thromboembolism (VTE).

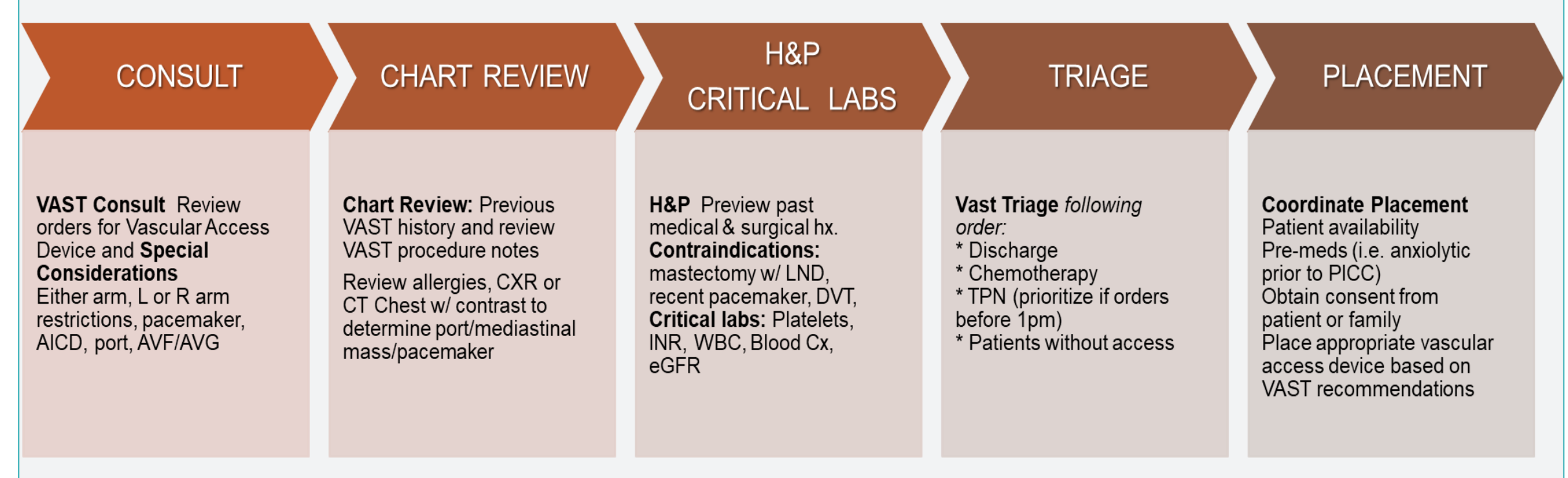
Objectives

The VAST aims to promote an optimal, proactive and intentional approach to preserve vasculature, improve clinical outcomes, and promote culture of safety by placing the most appropriate vascular access device by utilizing best practice guidelines. VAST applies the Michigan Appropriateness Guide for Intravenous Catheters (MAGIC) guidelines and adopts the Vessel Health and Preservation (VHP) model for providing safe, reliable, and effective care. Our aim is to improve quality of care, improve patient experience, reduce costs and risks associated with VADs and supply waste.

Methods

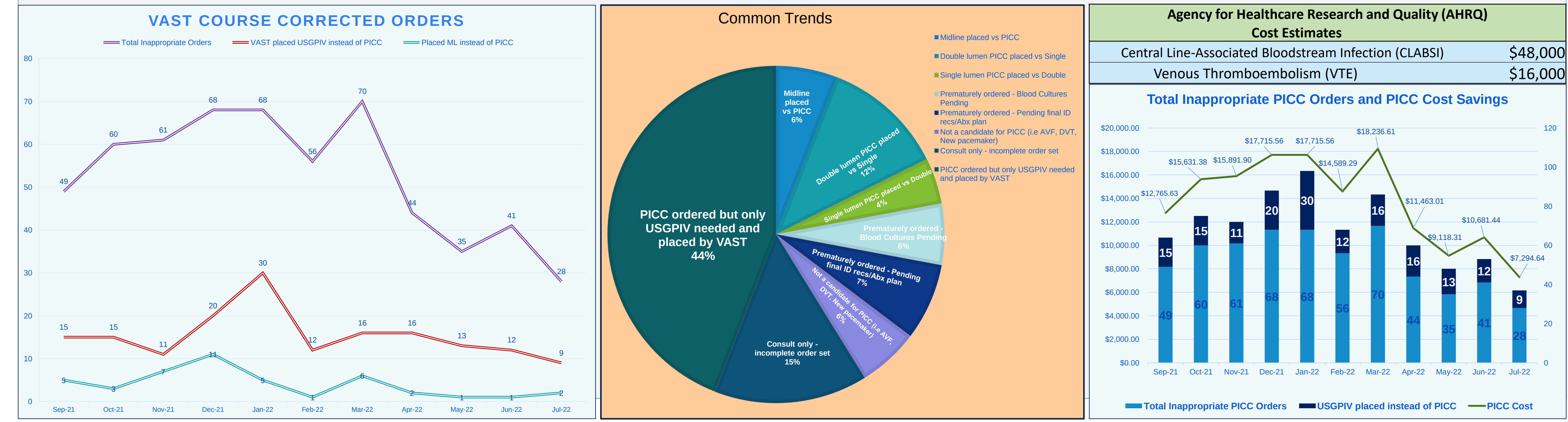
The VAST conducts a comprehensive chart review on all vascular access consult requests by reviewing the patient's medical and vascular history and makes recommendations based on clinical indications, duration of treatment, infusion therapy and appropriateness.

The VAST spends approximately 45 minutes reviewing indications to ensure the most appropriate vascular access device (VAD) is placed for each patient to improve patient outcomes while adopting a vessel health and preservation approach.



Results

VAST course corrections have substantial cost savings as well as quality and safety implications for CLABSI and VTE prevention. Significant savings and harm reductions are achieved by avoiding inappropriate use of PICCs and Midlines and placing the least invasive VAD in the most optimal vessel and location (based on catheter to vein ratio assessment & considerations). According to AHRQ, management and care of each CLABSI case can cost up to \$48,000, and each PICC-associated deep vein thrombosis (DVT) is \$16,000. In January 2022, VAST course corrected a total of 68 inappropriate PICC orders and placed 30 USGPIVs in lieu of PICCs. Assuming that one or all 30 course corrections resulted in these complications, cost avoidance ranges from \$48,000 up to \$1.4 million and \$16,000 up to \$480,000 respectively.



Conclusions

The VAST applies evidence through course correction and education, promotes peer to peer engagement that can lead to high performance, consistency of safety practices, and reduce supply waste. VAST is a small, unique, and highly specialized group with a shared desire to improve patient outcomes by placing the most appropriate and least invasive vascular access device. Poor venous access does not always necessitate a PICC placement.

Leveraging the vascular access specialty team promotes selection of the right device with a comprehensive assessment including the best vessel, optimal site location, performed by highly skilled inserters utilizing visualization technology (i.e., ultrasound) resulting in fewer VADs based on fewer attempts while improving the patient experience.

Next Steps

Ongoing and additional vascular access education on device selection and vessel health preservation is essential. VAST is hosting an Inaugural in-person all day Vascular Access Symposium on June 5, 2024.



VAST is currently collaborating with the Health Informatics Department to initiate process improvements with the electronic health record (EHR) to incorporate clinical decision support on VAD selection factors within the electronic order sets.

References

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