

Increasing Efficiency of the Comprehensive Vascular Access Team

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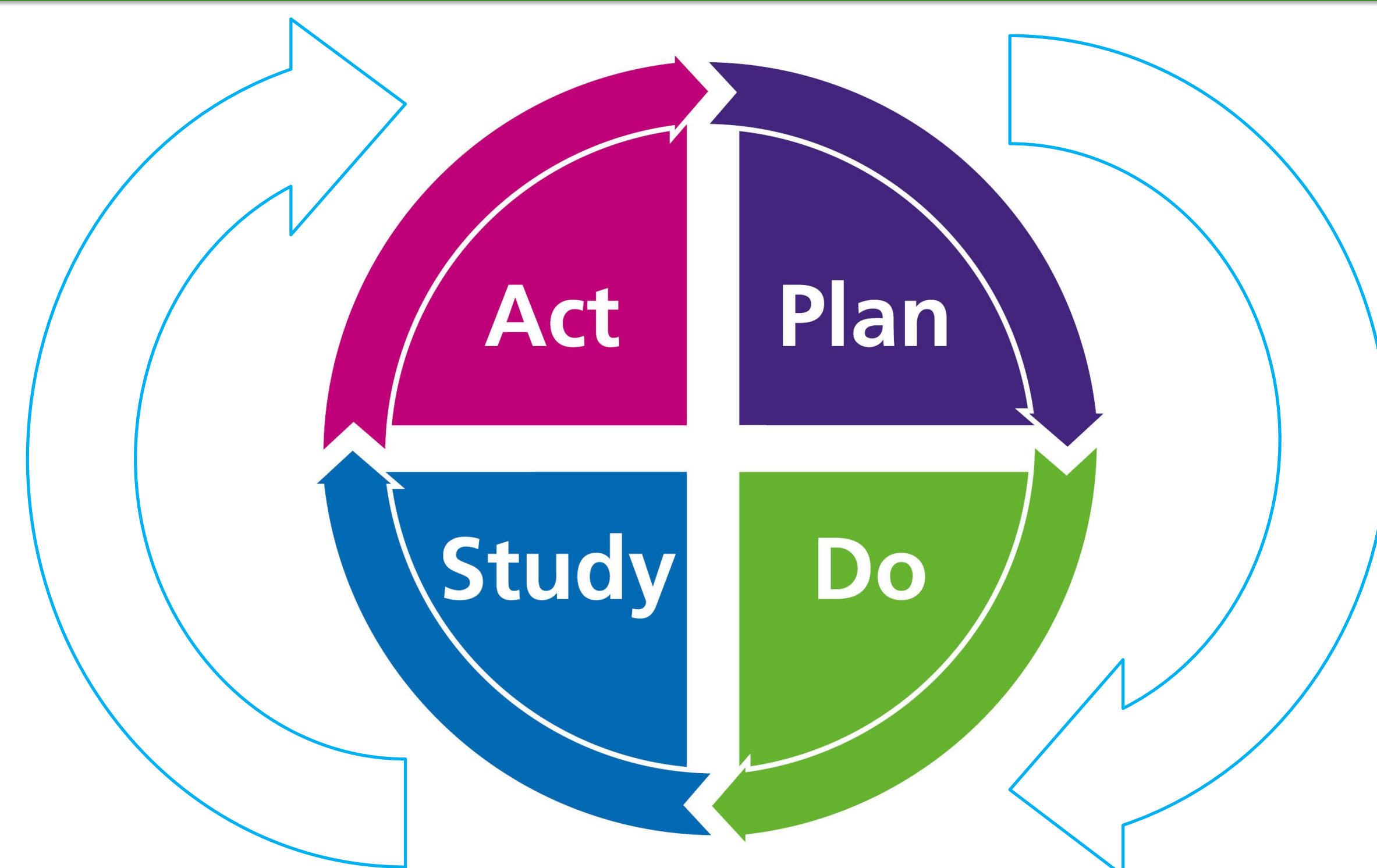
Background

- Blind stick approach is the traditional method
- Leads to multiple peripheral intravascular (IV) attempts which can cause delay in treatment and dissatisfied patients
- Ultrasound (US) has gained popularity
- CVAT created in 2017 to help reduce access delays
- 2018 - CVAT received 2,200 consults for PIVs (25% of all CVAT consults)

Problem Statement

Registered nurses (RNs) are requesting a great number of CVAT consults for IV's as well as for help with difficult-to-stick patients, which is increasing the number CVAT consults. This increase in consults can lead to delays in medical treatment, increased expenses, and a decrease in patient satisfaction. The US guided approach for IV placement has gained substantial popularity in the hospital. RNs in the emergency department can learn the USGP IV insertion technique as an extension of their skill set that falls within their scope of practice, thereby decreasing the number of unnecessary CVAT consults. The goal is to reduce CVAT consult volume by 25%.

Method



Intervention & Implementation

1. Learn/See: (Includes pre-learning and in-class)
 - a. Video instruction
 - b. Faculty-led instruction
2. Practice: simulation-based deliberate practice in the simulation lab with the facilitator
3. Prove: Learner demonstration in the simulation lab
4. Do: Direct patient care with supervision

USGP IV Competency Checklist				
Name		Date		
Training program		Procedure/site		
Training year		Facilitator		
Task		Incompletely Performed	Completely Performed	Notes
Pre-procedure	Review patients chart (as relevant)			
	Assess vasculature and mark needle insertion site			
	Wash hands/Alcohol hand sanitizer			
	Prepare site using alcohol wipes or chlorhexidine			
Procedure	Prepare IV extension with flush			
	Insert needle			
	Obtain venous access: confirm with flash back and US machine			
	Apply IV extension			
	Check for blood return			
	Secure the catheter in place			
Post-procedure	Clean area and apply dressing			
	Throw away sharps			
	Wash hands/Alcohol hand sanitizer			
	Document procedure/Patient keeper			

Number of attempts at procedure _____

Assessment of performance _____

Confidence (1: not at all, 3: average, 5: completely)

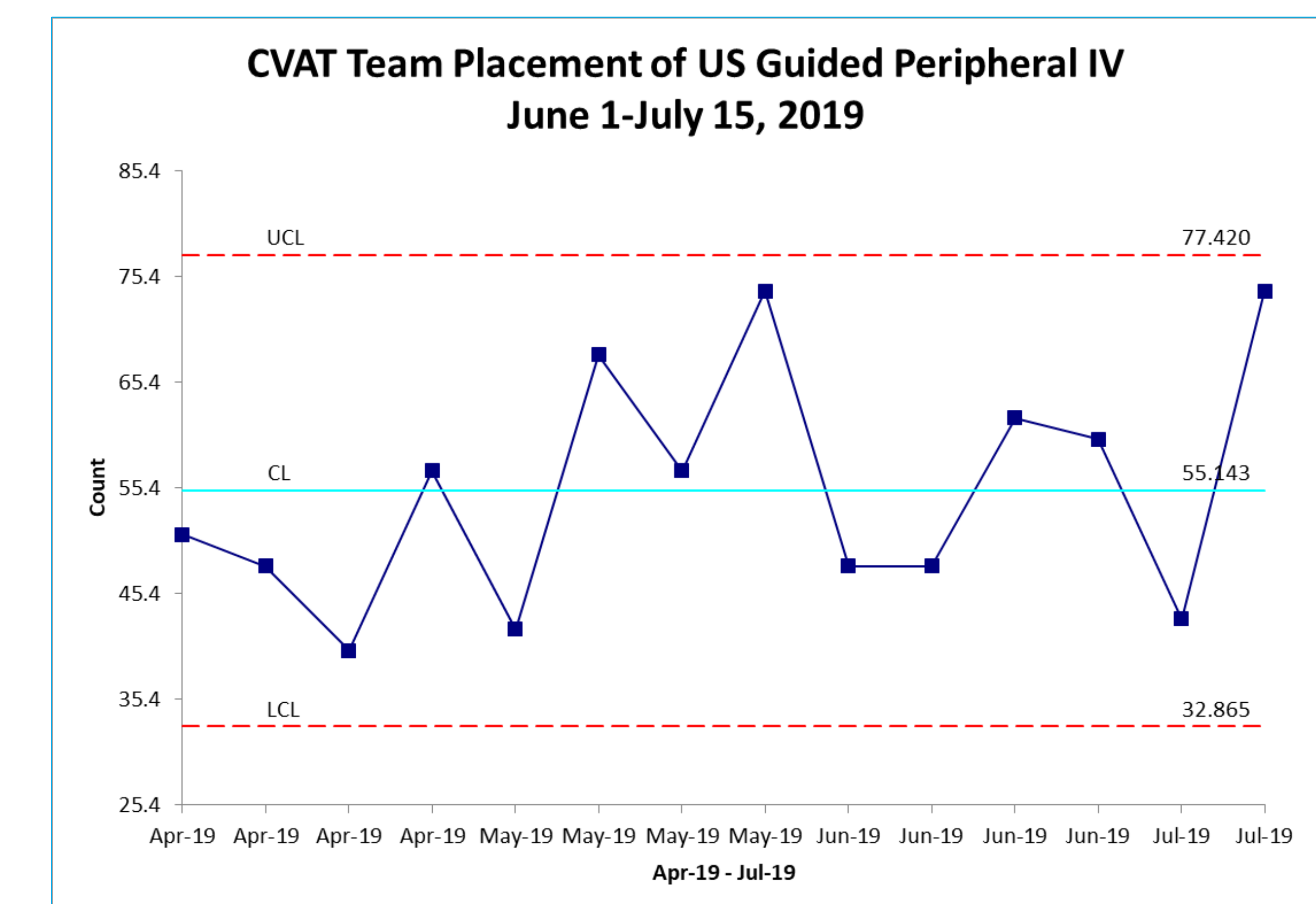
Self-assessment of confidence: _____ Facilitator assessment of confidence: _____

Competence (1: not at all, 3: average, 5: no further supervision needed)

Self-assessment of confidence: _____ Facilitator assessment of confidence: _____

Findings

- 430 USGP IVs placed from June 1 to July 15, 2019 by CVAT and ED RNs
- 89 of these were successfully placed by ED RNs
- Decreased CVAT task volume by 21% (goal was 25%)
- p-value < .001 using Chi Square Test
- Common-cause variation shown on control chart



Shift	CVAT IV attempts	ED IV attempts	Total IV attempts	Statistic	p
Day	186	26	212	Fisher's p 2-Tail	.000479889
Night	155	63	218	Chi-square p	.00002074102
Total	341	89	430		

CVAT, comprehensive vascular access team; ED, emergency department.

Implications

- Continue to establish competency with UED RNs on the USGP IV technique
- Have CVAT readily available for more advanced access techniques
- Expand to other areas in the health system