

# A Protocol to Decrease CCU Length of Stay After Transfemoral Transcatheter Aortic Valve Replacement (TF-TAVR)

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## Background

Transfemoral Transcatheter Aortic Valve Replacement (TF-TAVR) was initially

- Approved for patients that were inoperable or high risk for surgical valve replacement
- Had a high incidence of mortality and morbidity
- Required critical care post-procedure

As the procedure has evolved,

- Many of these patients no longer require critical care
- Cardiologists are not “in house” 24/7
- Most TF-TAVR patients were ready to transfer out of the critical care unit (CCU) later in the day when the on-call cardiologist priorities do not include assessing the readiness for transfer of stable patients

## Purpose

A clinical pathway and nurse driven protocol were developed to

- Decrease the length of stay in the critical care unit
- Help to decrease total hospital length of stay
- Free the critical care beds for critically ill patients

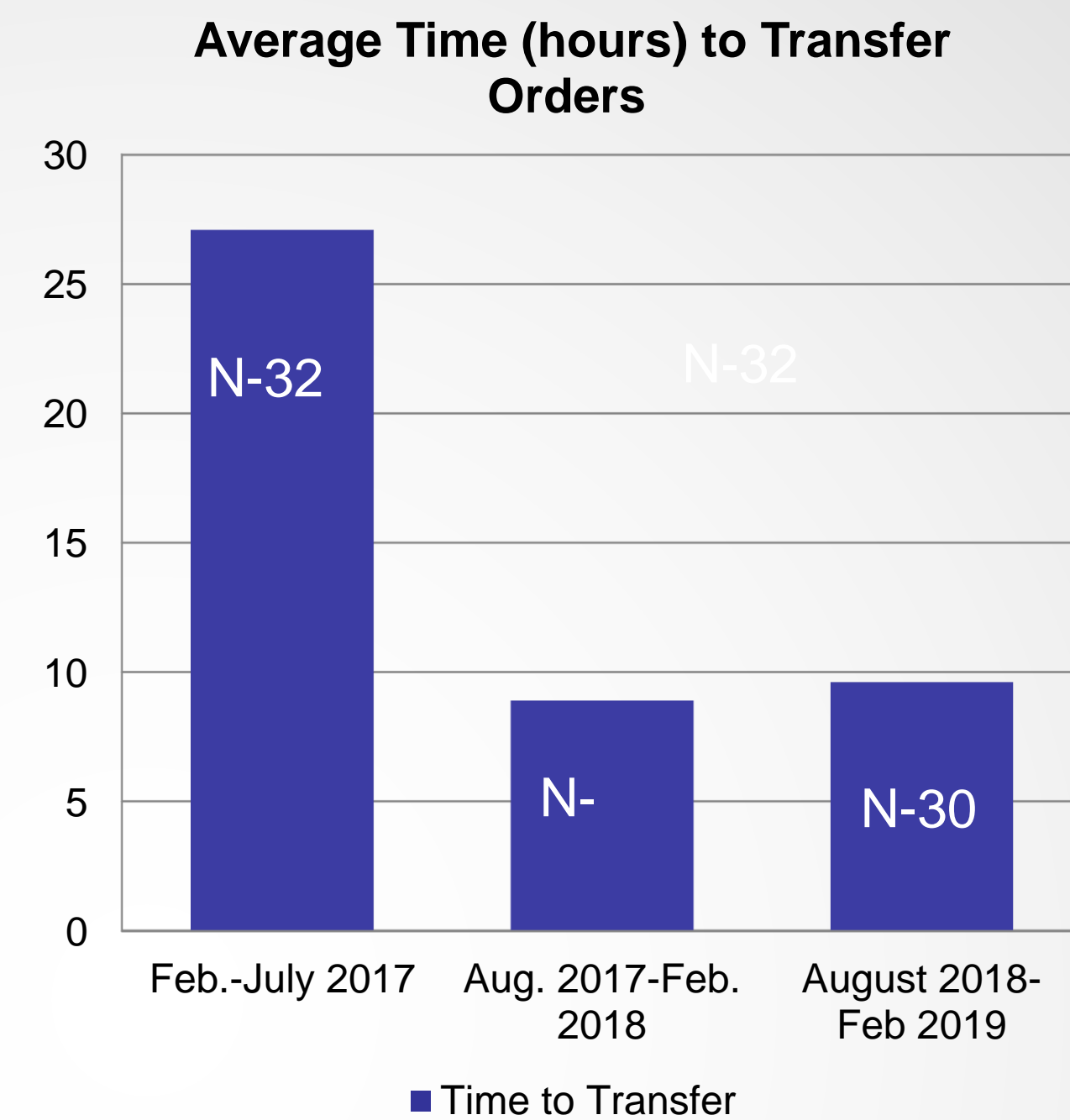
## Methods

In collaboration with the lead structural heart cardiologist and nurse practitioner

- Criteria was developed for early transfer out of CCU
- Order set changes were made
- A clinical pathway was developed to allow the cardiac critical care nurse to activate nurse driven protocol transfer orders
- Education was provided to the critical care nurses on the criteria needed to activate the transfer orders to the cardiac telemetry floor
- Education was provided to the cardiac telemetry floor RN and CNA staff on the care of post procedure TAVR patients

## Results

Transfemoral TAVR Clinical Pathway			
Procedure Date	Patient ID	Goal	Deviation/Explanation (Goal not met)
0-4 hours		<b>Goal</b> Goal Met <input type="checkbox"/> Goal Not Met <input type="checkbox"/> Grain stable without hemostasis Evacuate within 1 hour Cracked in OR Is every 2 hour white swabs Saline lock all IV when repair protection fluid are complete except TCC to patient OOB to chair 4 hours stable grain. CCR to get patient OOB if "home" or "near parameter" not meeting Remove arterial line after patient OOB Wound and CCU if not greater than 30% Documented time after at: OOB if Foley removed straight cath if unable to void PCD # 28-08 No Foley present	
6-12 hours		If ordered and all criteria met: • not 100 percent pain dependent • all IV vasopressor medications • hemis and grain stable after OOB RN to initiate Transfer to Cardiac Telemetry When excluded components (use electronic for a communication hand) Check on: 1) RN: Transcatheter Aortic Valve Replacement 2) Transfer Level of Patient Placement Cardiac 3) Telemetry Orders Once all criteria met, right click on order, select Cancelled: • Sequential stockings • Integromed IV and other ordered medications • OAB • Morphine (Demerol) • Protonix, if ordered Remove Sequential/Apply TEDS	



- Thirty-two TAVRs were completed in the 6 months prior to implementation. The average time to transfer orders was 27.09 hours.
- In the first 6 months after implementation:
  - Twenty TF-TAVR patients had nurse-driven protocol orders activated by the physician
  - Fifteen patients met criteria for transfer to telemetry
  - Average time to transfer orders for these 15 patients was 8.9 hours
- The average time with CCU orders for all TAVR patients decreased by 2.01 hours
- In follow up, one year later progress was maintained
  - Thirty of 35 patients had nurse driven protocol ordered
  - The average CCU time was 9 hours and 37 minutes

## Discussion

- A Clinical Pathway and Nurse-Driven Protocol decreased length of time TF-TAVR patients had CCU orders
- The Nurse-Driven Protocol did not result in patients being transferred back to CCU
- Telemetry bed availability often hindered early transfer from CCU
- Since early 2020 most patients are directly admitted to the telemetry floor without the need for a CCU stay
- Minimal staff education was needed for this change in practice as the telemetry staff had already become very comfortable caring for post TAVR patients

## Conclusion

The development of a nurse-driven protocol and clinical pathway standardized care and decreased the length of time that selected TF-TAVR patients had critical care orders.

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