

Trauma Nurse Fellowship: Developing the Novice Trauma Nurse

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BACKGROUND

- Setting:**
- 633 licensed bed not-for-profit
 - State designated Level II trauma center with more than 140,000 annual visits
 - 84-bed Emergency Department (ED); 16-bed Trauma/Surgical Intensive Care Unit (TSICU); 20-bed Acute Care Trauma/Surgical Unit (ACTSU)

Annual trauma volume - approximately 1600 with 700 tiered trauma activations. New graduate nurses have been hired in each of these units creating a need for extensive trauma training. Residency and fellowship programs have successfully been implemented in combination with workshops to develop nurses and increase nursing knowledge over the past several years.

- Benefits of fellowships:**
- Flexibility and focus on simulation
 - Specialized training that improves competency
 - Standardize care given by nurses
 - Improvement of quality and efficiency of care
 - Improve work satisfaction, engagement, confidence, & team relationship
 - Reduce turnover
- There is a gap in the nursing literature related to the effectiveness of short term fellowship and residency programs.

PURPOSE

- Evaluate the impact of a Trauma Nurse Fellowship (TNF) on knowledge and skills compared to nurses who only took the Trauma Nurse Core Course (TNCC)
- Evaluate confidence of nurses before and after completion of the TNF

ANALYSIS/METHODS

- Methods:**
- Obtained IRB approval
 - Data Collection:
 - Demographic data
 - Pre/Post
 - 5-question survey of nurses' perceptions of readiness and confidence
 - Knowledge measurement utilizing a 50-question TNCC exam (with permission of Emergency Nurses Association)
 - TNCC final written assessment and Trauma Nurse Process (TNP) skills scores
 - Non-TNF participants' written assessment and Trauma Nurse Process (TNP) skills scores in same TNCC class and 3 most recent TNCC courses at our facility

- Analysis:**
- Paired sample *t-tests* TNF pre-post comparison
 - Independent Sample *t-tests* TNF to Non-TNF groups comparison

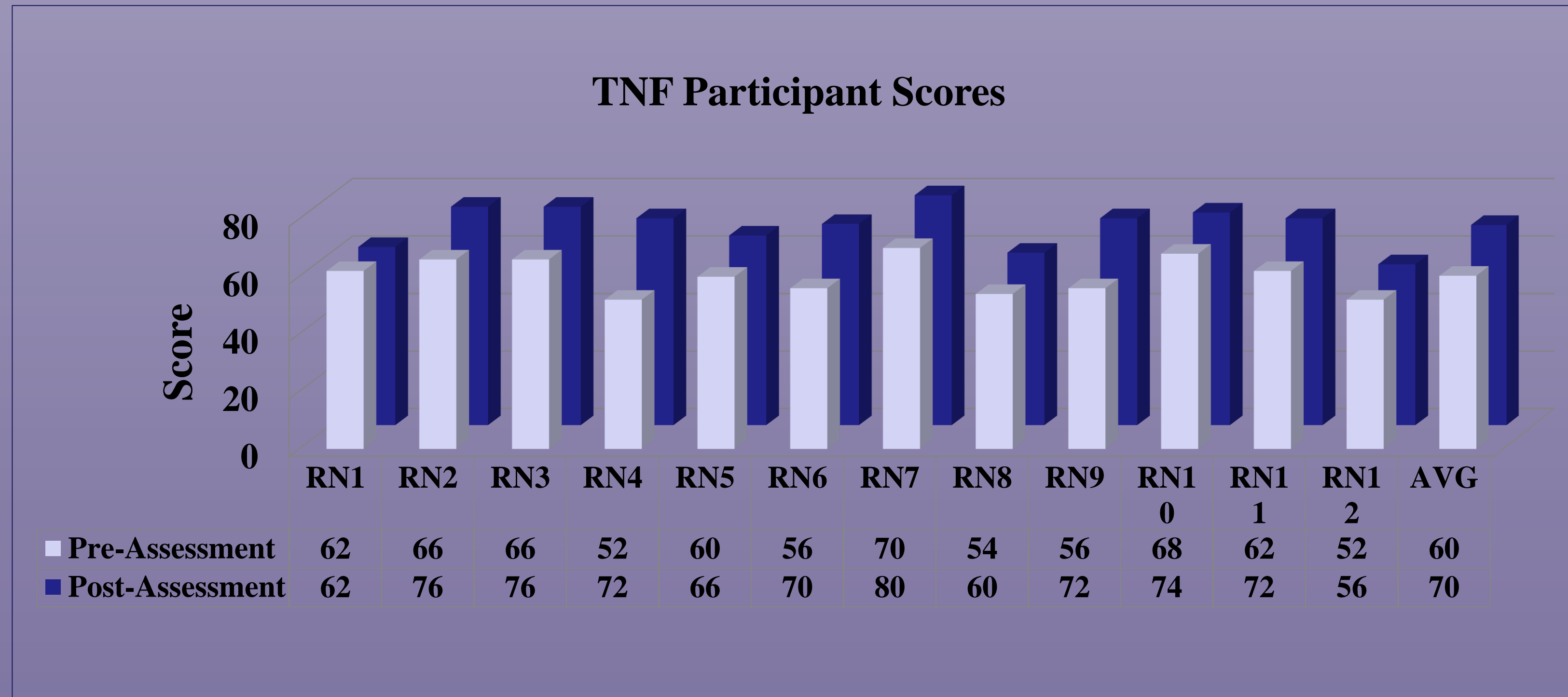
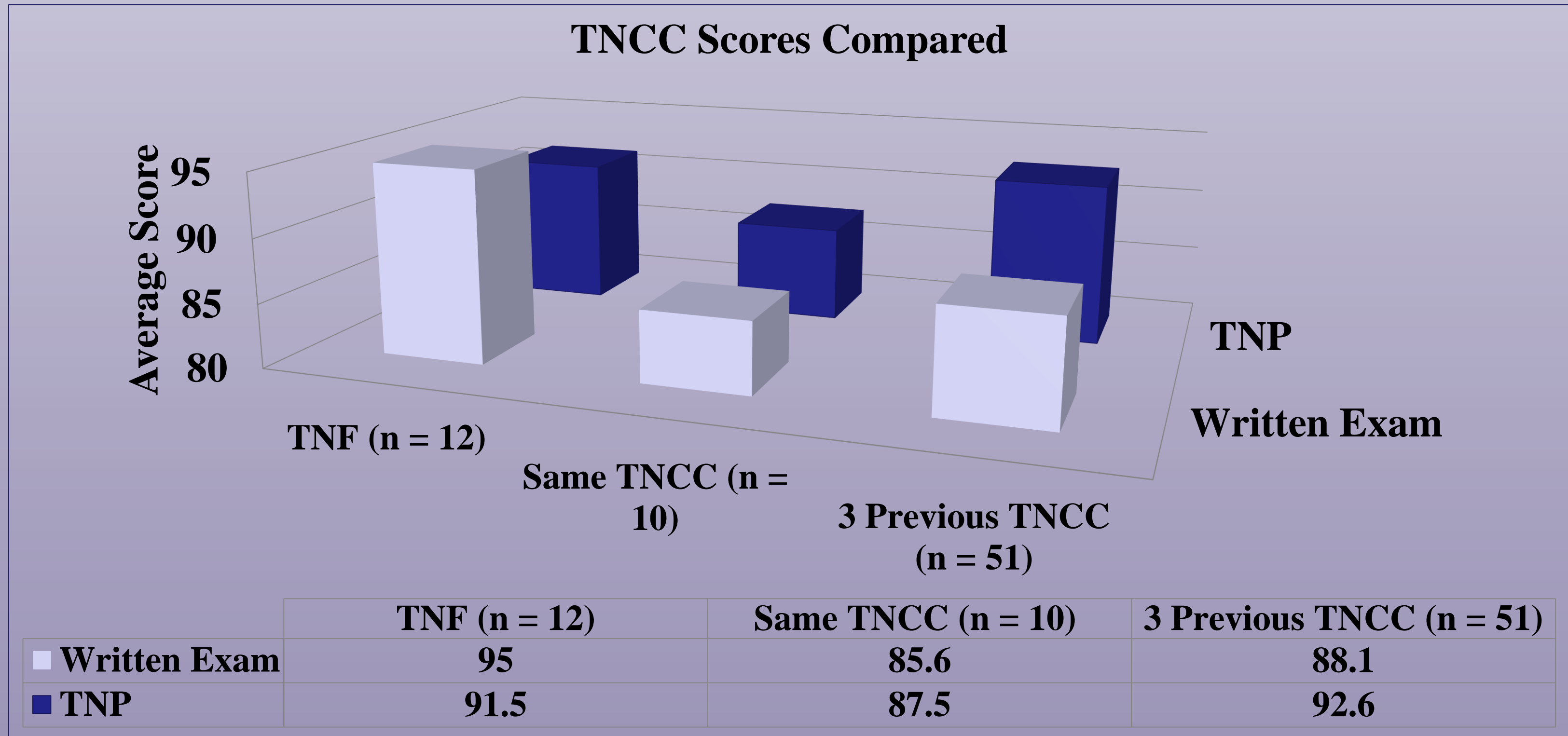
IMPROVEMENT PROCESS

- The TNF included RNs from all 3 nursing units (ED n = 7 , TSICU n = 3 & ACTSU n = 2) and was 7 weeks in duration culminating in TNCC. Participants were selected by their nurse managers. Components included:
- 71 didactic hours (45 lectures)
 - 95 clinical hours (10 clinical domains)
 - Observation of Trauma Team Activations
 - Trauma Team Activation Simulations
 - Case presentations by participants

RESULTS

Using statistical hypothesis testing, results indicate that there was improvement in both perceptions of confidence in readiness and skill as well as knowledge gained. Analysis supported the hypothesis that the TNF would improve nurses' knowledge gained.* ($p = <0.05$). There was improvement in the TNCC TNP skills assessment but not statistically significant.

Assessment Tool	<i>p</i> -value
TNF vs Non-TNF TNCC Exam	0.024*
TNF vs 3 Previous TNCC Exam	0.055
TNF vs Non-TNF TNP Skills	0.122
TNF vs 3 Previous TNP Skills	0.135
Pre- & Post-assessment Scores	0.001*



PERCEPTIONS OF CONFIDENCE

Using the Likert Scale, participants responded to an electronic survey of 5 questions before and after the TNF. Mean score for each item was used for analysis.

Comparison Mean Scores TNF Survey (N=12)			
Question	Pre	Post	Significance
I am confident in my knowledge of the care of trauma patients.	2.92	4.0	$p = <.001$
I am confident in my communication skills with other team members and departments in relation to care of trauma patients.	3.67	4.42	$p = <.001$
I am confident in understanding my role and responsibilities in the care of trauma patients.	3.58	4.33	$p = .001$
I am confident that there is optimal interdisciplinary team collaboration across the continuum of care of our trauma patients.	4.25	4.75	$p = .003$
I am confident with my knowledge of the responsibilities of all interdisciplinary professionals across the trauma continuum.	3.42	4.42	$p = <.001$

CONCLUSIONS

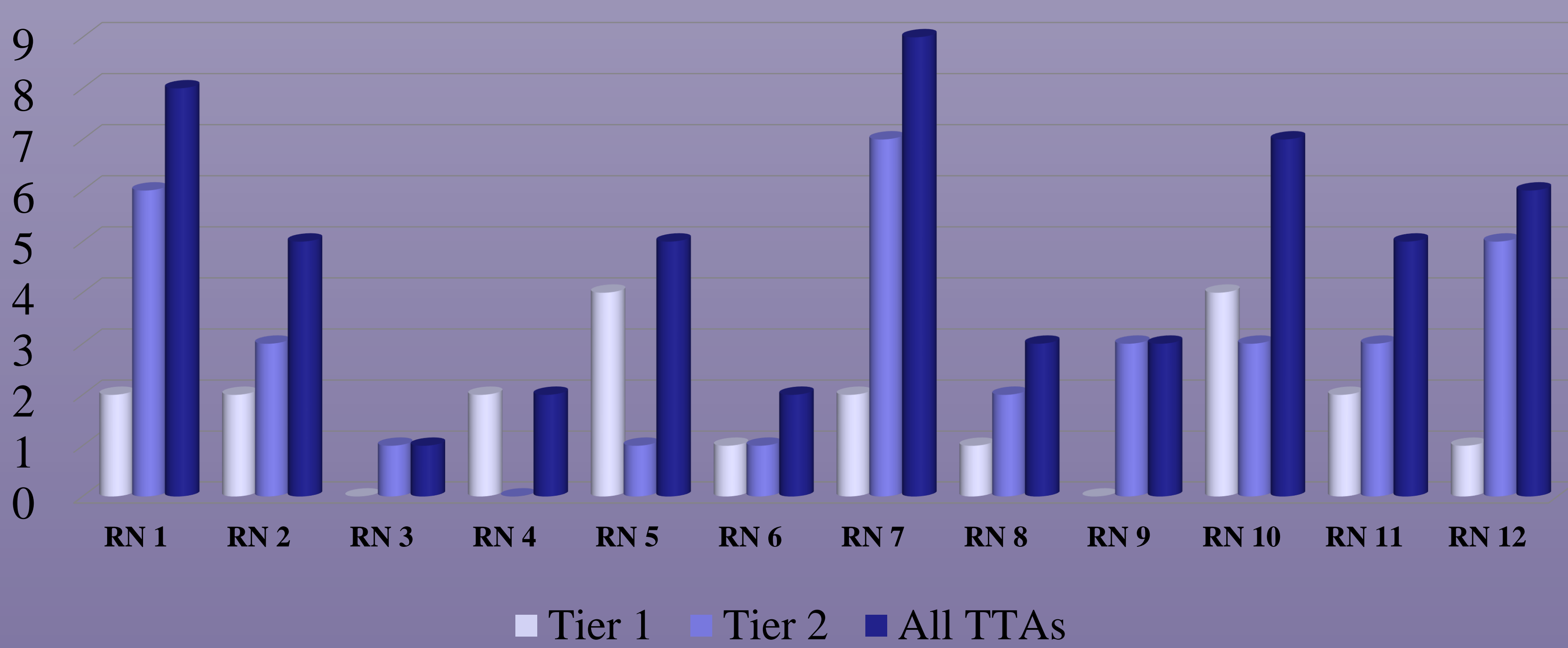
Data suggests the TNF is a successful method for developing the novice trauma nurse. The planners reviewed evaluations of all aspects of the program including lecture content and presenter, clinical rotations and their value, scheduling, and opportunities for participation in trauma team activations. There was an added anecdotal benefit of enhanced relationships between the trauma units.

LIMITATIONS: The small convenience sample limits the ability to generalize the results. Low trauma volumes on some shifts limited the exposure to some participants.

COST: The projected cost of the TNF was \$108,166. The actual cost was \$62,612.

FUTURE: Planning for 2 additional cohorts for FY 2018 is underway. The study will be replicated to validate the worthiness of the program and applicability to other trauma programs. Scheduling of clinical rotations will be adjusted to increase opportunity to participate in trauma team activations and lecture content will be revised to reduce redundancy. Additional simulations and opportunities to practice clinical skills will be added.

Number of Trauma Team Activations Observed per RN



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