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Incorporating Critical Care Training within a Blood and Marrow Transplant Residency For New Inpatient Nursing Staff

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Background

- Often, nurses working in the *blood and marrow transplant* (BMT) setting require additional training to meet the complex needs of this population
- Typically, nursing programs do not provide this level of training.
- To address this, we developed an inpatient training program for newly-graduated nurses designed to provide additional training in critical care, oncology, and BMT needed to improve continuity of care, patient outcomes, patient satisfaction and reduce costs.

Purpose

- To describe the design and preliminary results of a 7-month, multispecialty BMT/Critical Care Unit (CCU) Residency Program design to prepare new nurse for BMT practice

Program Overview

Design

- Full BMT-CCU Residency Program 7-month in length
- First 18-weeks focused on Critical Care (Figure 1)
- Training consists of 600 hours of critical care training (~30-35 hr/week) divided equally among didactic & simulation training (~300 hours) and clinical hours (~300 hours).

Results

Program Completion

- 100% of RNs that started the program (N=16) completed the Critical Care portion of the 7-month residency

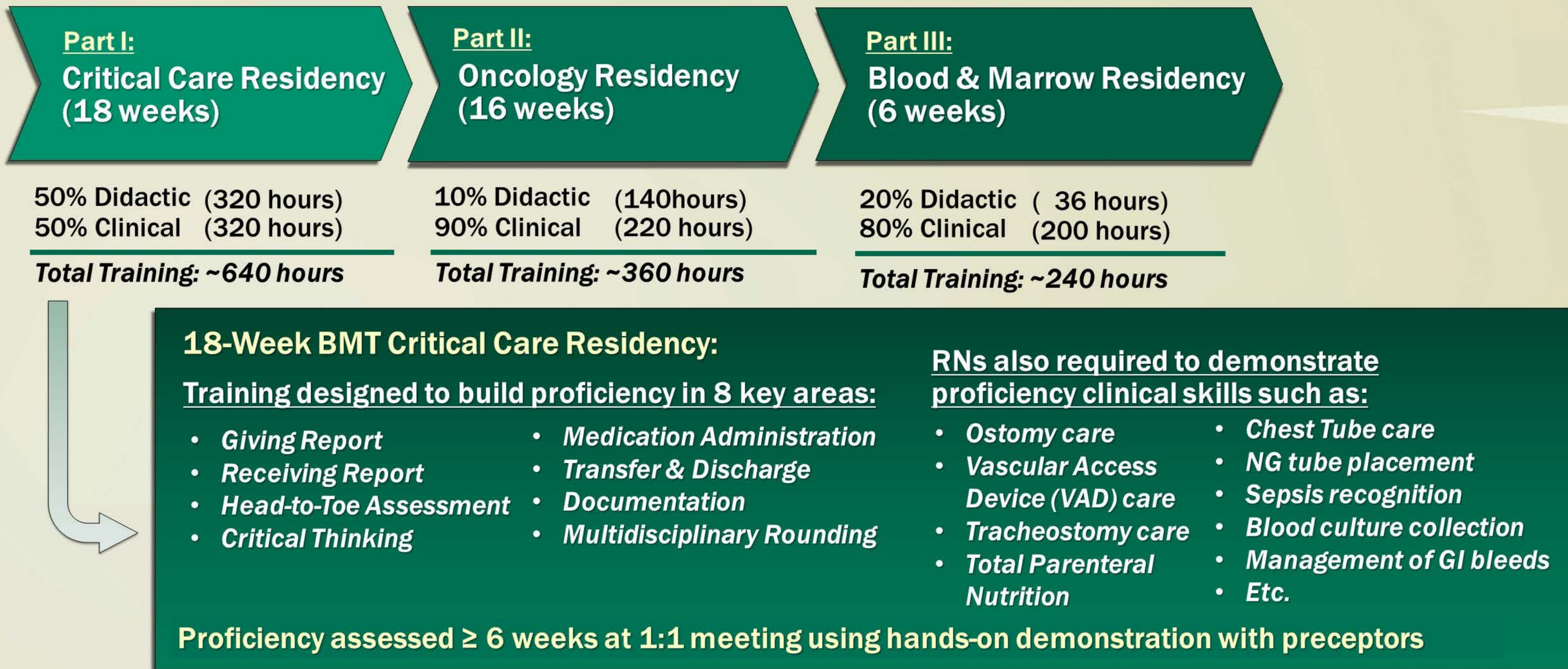
Sample Characteristics

- RNs in the Critical Care Residency were mostly between 20-29 years of age (75%), female (88%), and had BSNs (81%)
- Approx. two-thirds (63%) of RNs had less than 1-year previous clinical experience, while 37% had some previous experience (n=1 EMT, n=2 CNAs, n=1 CMO, n=1 Medical Scribe).

Table 1: Demographics and Clinical Experience of New Nurse in 18-Week BMT-Critical Care Residency (N =16)

	%	N
Sex		
Female	88%	14
Male	13%	2
Age (years)		
20-24	44%	7
25-29	31%	5
30-34	13%	2
35-40	13%	2
Previous Clinical Experience (years)		
<1 years	63%	10
1-2 years	13%	2
2-3 years	6%	1
3-4 years	13%	2
4-5 years	6%	1

Fig 1: Overview of 7-Month BMT/Critical Care Unit (CCU) Residency Program



Results, cont.

Table 2: Educational Characteristics of New Nurses in 18-Week BMT-Critical Care Residency (N=16)

	%	N
Total Years Education		
14 years	19%	3
16 years	81%	13
Type of Nursing Education		
ASN	6%	1
BSN (In Progress)	13%	2
BSN (Completed)	81%	13
Baptist Scholars		
Yes	44%	7
No	56%	9

Legend: Students in Baptist Scholar complete BSN within hospital system, providing familiarity to system wide processes

Proficiency in Critical Care Skills by New Nurses at Baseline

- Overall, the cohort displayed mild-to-moderate proficiency across the 9 competencies before starting the 18-wk Critical Care Residency (Fig 3).
- On average, 43.1% of RNs displayed “moderate proficiency” and 55.6% were “somewhat proficient” across the 9 competencies, but none of the 16 RNs met criteria for “full proficiency”.
- Skills most likely to be rated as “moderately proficient” were at baseline were receiving report (81.3%), medication administration (81.3%), documentation (68.8%), and compliance with required competency checklists (62.8%).
- Skills most likely to be rated as either “somewhat” or “not at all proficient” were ability participate in interdisciplinary rounds (68.8%), critical thinking (62.5%), and giving report (62.3%).

Results, cont.

Increase in Proficiency during 18-Week BMT Critical Care Residency

- Overall, new nurses showed considerable improvement across the 9 competencies during the 18-week Critical Care Residency
- On average, 14.6% nurses went from ‘non-proficient’ to ‘fully proficient’ during the 18-week program (Fig 2).
- Approx. 1 in 5 (22.2%) new nurses went from ‘non-proficient’ to ‘moderately proficient’ during the 18-week program

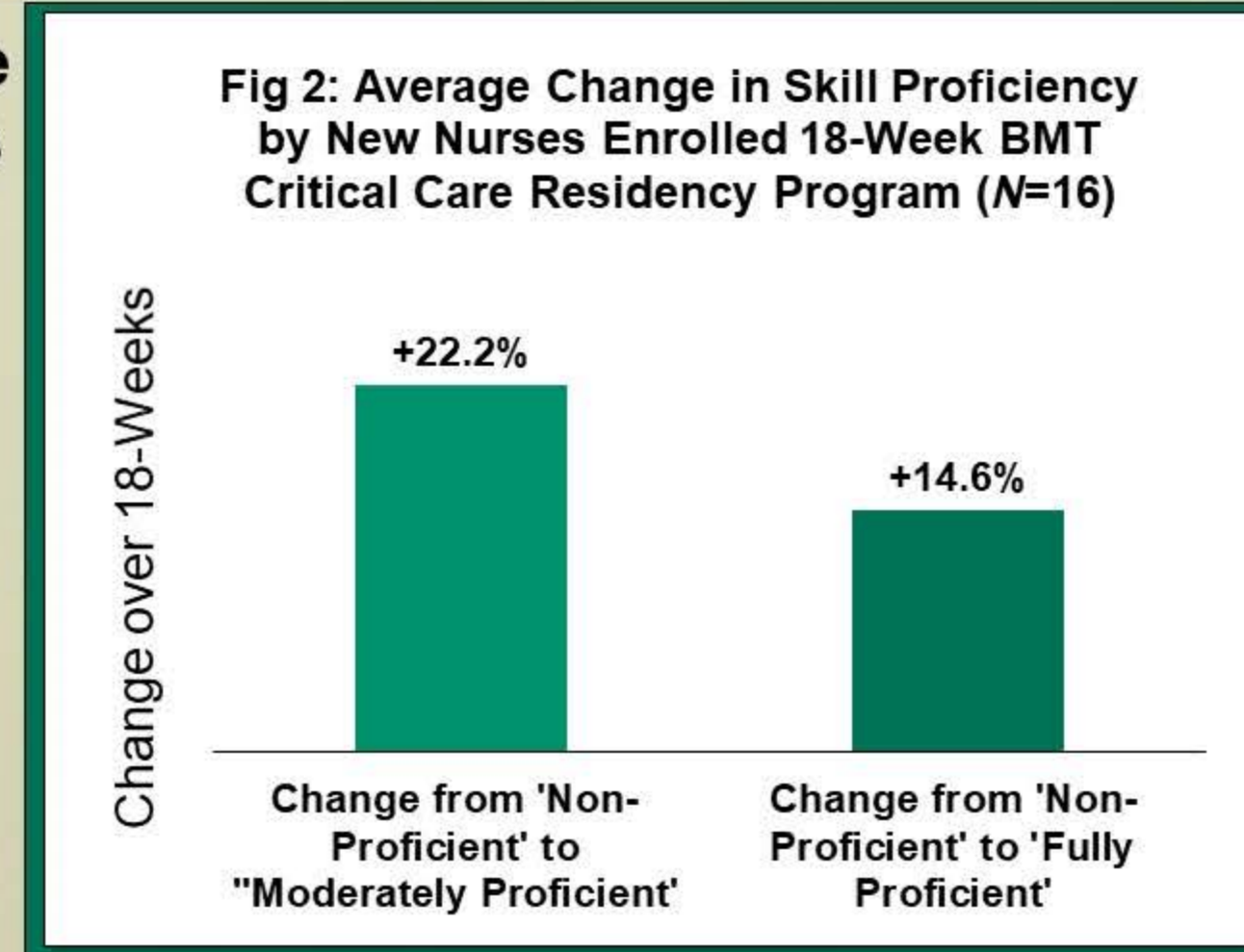
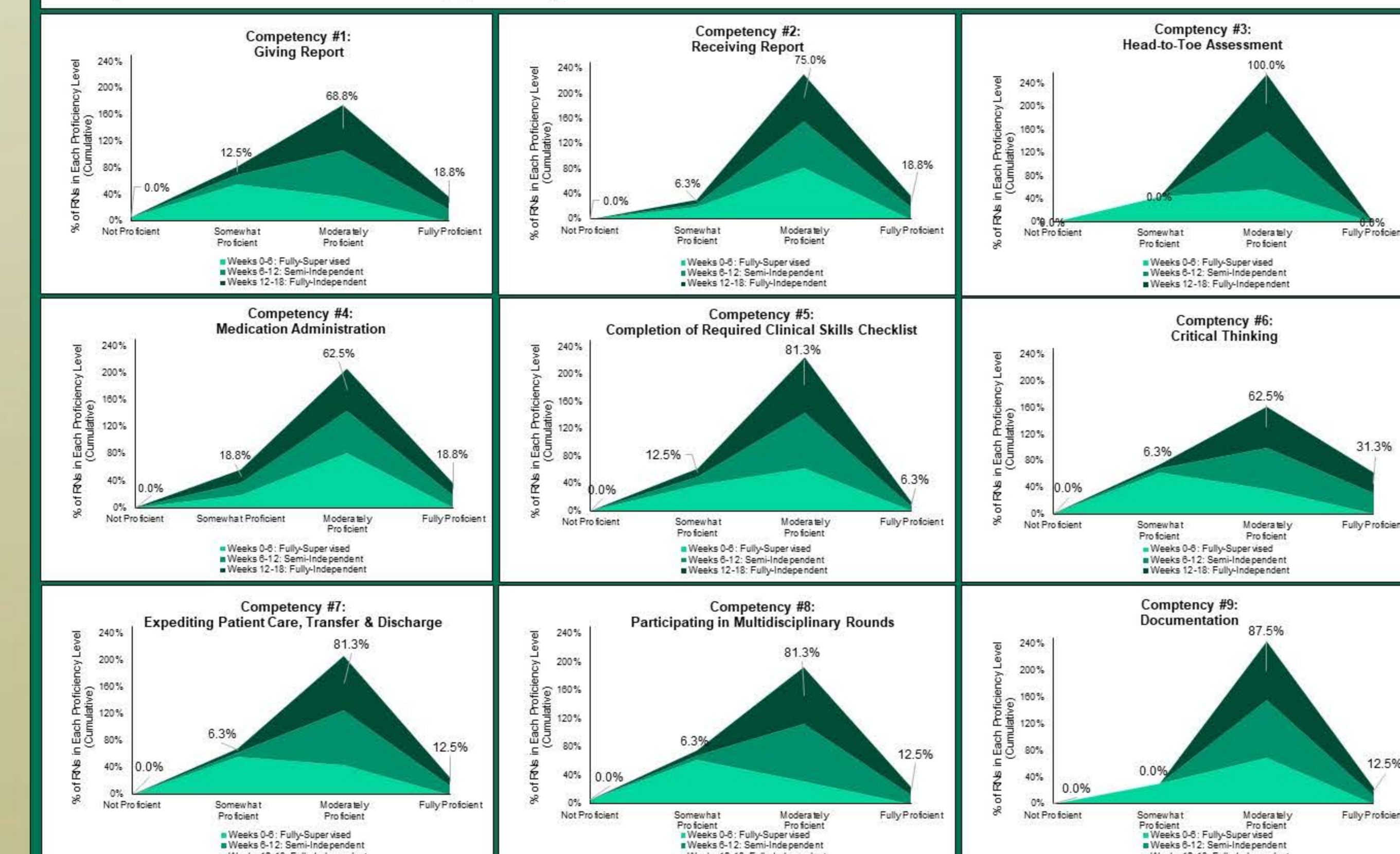


Fig 3: Graphs Showing Increase in Proficiency for New RNs, by Competency, During 18-Week BMT/Critical Care Residency (N=16)



Results, cont.

- Closer inspection of the data found that majority of gains in proficiency during the 18-week residency occurred during the first 12 weeks of training

Observations/Next Steps

- Some of baseline proficiency in skills receiving report, med administration, etc. may have been influenced by differences in educational preparation (BSN vs. ASN)
- Participation in our Scholar’s Program, in which nurse’s get oriented to our hospital systems, documentation, etc. may also have impacted results.
- Surprisingly, prior clinical experience did not appear to be associated with total proficiency at 18-weeks or speed of progression
- Additional work in statistically-powerful samples will be needed to validate this finding and understand the factors involved
- Anecdotal evidence from nurses in the Oncology portion of the 7-month program, around issues with other skills such as time management, prioritization suggest that beginning the training with medical/surgical/oncology training rather than critical care may lead to better outcomes.

Conclusions

- Studies show that cross-training in BMT/CCU can improve patient outcomes and enhance continuity of care.
- New nurses in our 18-week Critical Care Residency program demonstrated improvements in skill during the program, often in 12 weeks
- Evaluation of outcomes from the second part the program (Oncology-specific training) is underway now
- Additional work on the ability of new nurses receiving training from Residency Programs such as these to meet the demand for nurses capable of caring for patients with complex, multispecialty needs such as BMT patients is needed.

References

- Figuroa, S., Gardner, J., Irizarry, J., & Cohn, T. (2016). Married state preceptorship model: Crossing the state line in new graduate nurse transition to practice, *Journal of Continuing Education in Nursing*, 47(11), 511 – 517. doi: 10.3928/00220124-20161017-10.
- Rimkus, C. F. (2008). Developing a comprehensive BMT specific ICU training program for competent BMT nurses. *Biology of Blood and Marrow Transplantation*, 14(2), 159 – 160. doi: https://doi.org/10.1016/j.bbmt.2007.12.460