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NCSBN's Multisite Transition to Practice Study

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June 8, 2015, MT CAHN MT Education/Practice Summit Collaboration

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NCSBN's Mission

The National Council of State Boards of Nursing (NCSBN) provides education, service and research through collaborative leadership to promote evidence-based regulatory excellence for patient safety and public protection.

Background

- 2001 NCSBN Employer's study: Fewer than 50% of employers report newly licensed nurses are "safe and effective" in their practice.
- Replicated in 2003 with similar results.
- NCSBN BODs convened a TTP Committee, which designed an evidence-based TTP model

Transition to Practice Model

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Literature

- Need for transition programs cited since 1931
- Seminal: Kramer, 1974; Benner, 1984
- Need: Berkow et al., 2008 from the Nursing Executive Center
- IOM Future of Nursing (2011) and Carnegie Study of Nursing Education (2010) recommendations

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Literature

- International/National Programs: Scotland's; UHC/AACN & Versant
- Turnover/retention - Relationship to patient safety: Duffield et al., 2009; Bae et al., 2010.

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Literature

- Stress: Elfering et al., 2006; Nielson et al. (2013); Park & Kim (2013)
- Competence: IOM, 2003; Cronenwett, 2007; Bjork & Kirkevold (1999)

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Gaps in the Literature

- Need for studies of transition in sites besides large, medical center hospitals
- Studies have not had control groups
- Lack of multi-site studies

Phase I

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Phase I Aims

- Conduct randomized controlled multisite study measuring safety and quality outcomes in newly licensed RNs using the TTP program.
- Compare outcomes with pre-existing onboarding programs.
- Geographically diverse samples of rural, urban and suburban hospitals.

Research Questions – Phase I

1. How effective is NCSBN's TTP program in terms of safety, competence, stress, satisfaction and retention when compared to the control group?

A Post Hoc Question Arose:

2. Do transition programs make a difference in new graduate outcomes in terms of safety, competence, stress, job satisfaction and retention?

Method – Phase I

Design:
Longitudinal, randomized, multisite study

Preparation:
- Online module development
- Plan for maintaining integrity of the study

IRB:
Western IRB or institution's

Method – Phase I

Selection Criteria

States – Illinois, North Carolina, Ohio

Hospitals – Hire 10 new graduates between July 1 and September 30, 2011

Nurses – First job after graduation, at least .5 FTE, pass NCLEX®-RN

Method – Phase I

Sample size

Calculated: 750 new nurses from 61 sites;
Actual: 1,088 from 94 hospitals

Procedure
- Hospitals randomized into study or control
- Study group used our TTP program
- Control group used their usual onboarding strategies

Method – Phase I

Procedure:

Study intervention:

1) First 6 months complete 5 modules; safety and clinical reasoning threaded throughout
2) Experienced nurses assigned as preceptors; must take TTP training module
3) Second 6 months institutional support
4) First year – Reflection and feedback integrated

Method – Phase I

Data Collection:

1) Demographics: new nurses, preceptors

2) Demographics and Outcomes: site coordinators

Method – Phase I

Data Collection:

1. Safety
   a) Positive Safety Practice Index ("I was first to recognize a change")
   b) Negative Safety Practice Index ("I violated standard precautions")
   c) Reports of errors Index ("Medication errors")

Method – Phase I

Data Collection:

2. Competence – Preceptor and New Nurse
   a) Overall Competence (NCSBN tool)
      • 6 items
      • Reliability=0.87

Method – Phase I

Data Collection:

b) Specific Competence (Preceptor and New Nurse)

- Patient-Centered Care – 10 items; reliability=0.93
- Teamwork & Communication – 8 items; reliability=0.90
- QI/EBP – 10 items; reliability=0.90
- Use of Technology – 5 items; reliability=0.89

Method – Phase I

Data Collection:

3. Job Satisfaction (Rothe & Brayfield) – 7 items; reliability=0.88

4. Work Stress (NCSBN tool) – 4 items; reliability=0.78

Method – Phase I

Data Analysis:

1. Examination of means, ranges, shape, distribution and outliers
2. Categorical data – Frequencies and Chi-Square
3. ANOVA - continuous variable effects across groups
4. Paired t-tests - effects across time within groups

Methods – Phase I

Data Analysis (continued):

5. Multilevel Modeling for analyzing multivariate effects

- controlled for time, nurse education, state, magnet status and university
- Nesting (nurse within hospital within state) require special analytic approaches
- Accounts for missing data with predictive equations

Results – Phase I

Sample

- Hospital Characteristics
- New Nurse Characteristics
- Preceptor Characteristics

Hospital Characteristics	% Control (51)	%Study (43)	Significance
Magnet Hosp (% yes)	41.7	39.6	ns
University Hosp (% yes)	39	46	p < .01
State(% of hospitals in Study)			
IL	25.5	14	p < .01
NC	30	27	
OH	44.5	59	
Hospital Location			
Rural	14.8	10.6	ns
Suburban	31.8	31.2	
Urban	52.2	53.4	
Organization type			
Government (not Federal)	2.7	3.2	ns
Not for Profit	94.8	95.1	
For Profit	2.2	2	
Hospital Size			
0-99	4.3	6.7	p < .01
100-199	10.2	18.4	
200-299	21	20.6	
300-399	24.7	10.6	
400+	39.8	43.7	

Variable	Control N=487	Study N=592	Statistical Significance
New Nurse Characteristics			
Age (mean)	27.9	27.6	ns
Gender (%female)	92.8	89.7	ns
Race (% white)	88	88.6	ns
Education (% in Program)			
Associate	48.7	49.3	ns
Bachelors	45.2	41.7	
Accel BS or Master	6.2	9	
Worked as Nrs Aid (% yes)	54	57.4	ns
Worked as LPN(% yes)	4.5	4.2	ns

Variable	Control	Study	Statistical Significance
Preceptor Characteristics: n=1270 on demographics			
Age (mean)	40.2	38.5	p < .01
Female %	93	95	ns
Education			p < .01
Associate/Dip	45.2	58.3	
Basic BS	41.6	34.4	
Accelerated BS/Masters	13.2	7.2	

Phase I – Research Question #1

How effective is NCSBN's TTP program in terms of safety, competence, stress, satisfaction and retention when compared to the control group?

Results Question #1

- Report of errors – favor control (p=.034)
- Negative safety practices – favor control (p=.031)
- Specific Competencies – patient-centered care (p=.041); use of technology (p=.045); communication and teamwork (p=.023) all favor TTP group
- Work stress – favor control (p=.044)
- No differences: Overall competence, Positive Safety Practices, QI/EBP, Retention, Satisfaction, Stress

Results

What do these results mean? There were few significant differences across TTP and Control group:

1. Are the control and TTP hospitals equally effective in transition to practice?

OR

2. Are the findings independent of a transition program intervention?

Post Hoc Question

Do transition to practice programs make a difference in new graduate outcomes in terms of safety, competence, stress, satisfaction and retention?

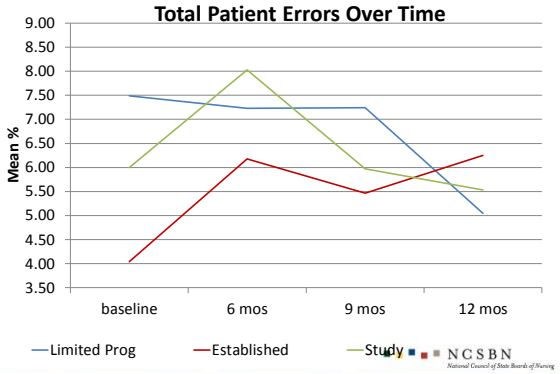
Evidence-Based Components

- Patient-centered care
- Communication and teamwork
- Evidence-based practice
- Informatics
- Safety
- Clinical reasoning
- Feedback
- Reflection
- Preceptorship
- Specialty content

Categories

1. TTP Program – n=43 (577 new nurses)
2. Established Program – employ 6 components n=29 (300 new nurses)
3. Limited Program – employ fewer than 6 components – n=22 (186 new nurses)

p= .014



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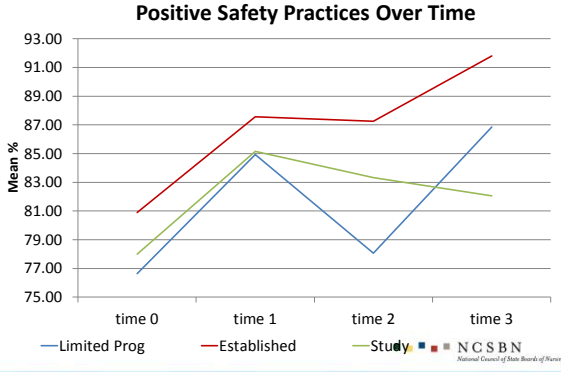
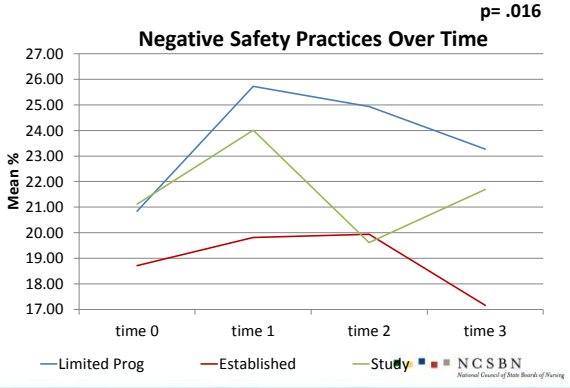


p= .016



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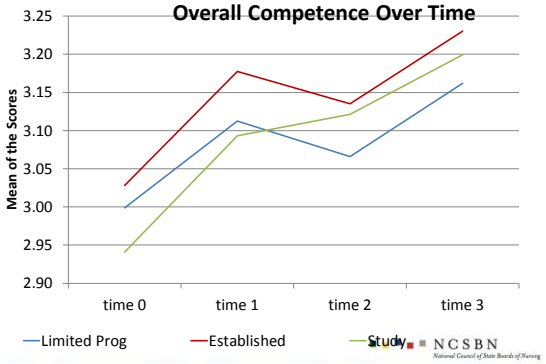

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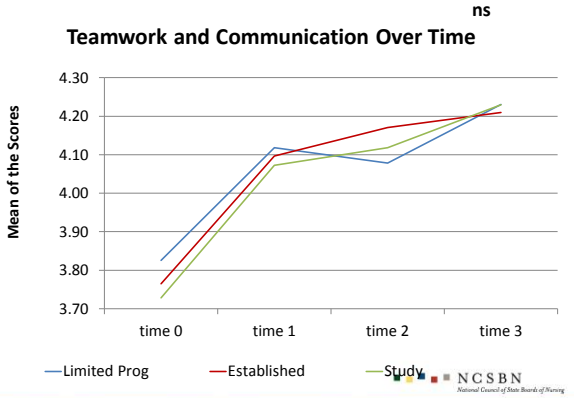

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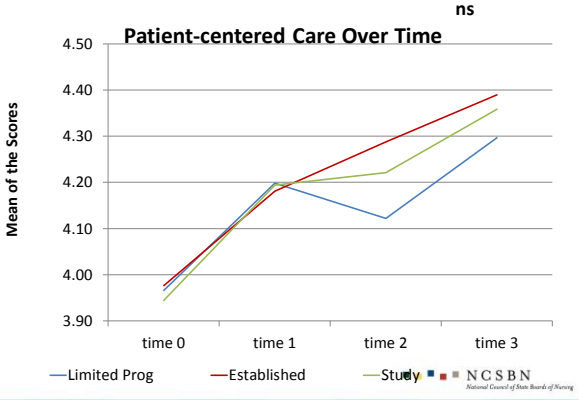

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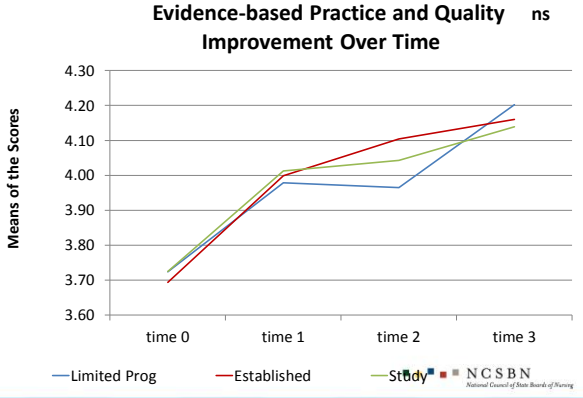

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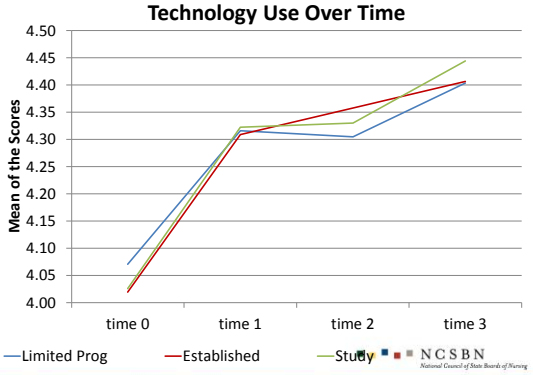
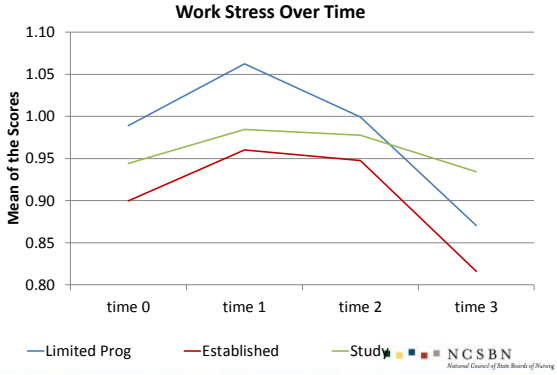
p= .022



p= .029



p= .031

TTP vs. Established vs. Limited Turnover

P <.001

Transition Program	New Nurses Leaving
TTP	14.7%
Established Programs	12.0%
Limited Programs	24.8%

Summary of Phase I Findings

1. "Established" programs reported fewer errors and negative practices; increased overall competence; less stress; more job satisfaction; less turnover.
2. "TTP" in the middle
3. "Limited" programs reported more errors, more negative safety practices, felt less competent, were more stressed and had twice the turnover rate.

Limitations

- Potential volunteer bias
- Hawthorne Effect
- Self reports
- Longitudinal attrition

Implications

A structured transition program with the following improves quality and safety outcomes in newly licensed nurses:

1. Formalized within the institution;
2. 9 months to 1 year in length;
3. Preceptorship integrated into the program;
4. Customize with specialty knowledge;

Implications (continued)

5. Incorporate patient safety, communication and teamwork, evidence-based practice, quality improvement, clinical reasoning, patient-centered care;
6. Feedback and reflection should be integrated.

BONs should be aware and disseminate.

Conclusions

1. A structured, evidence-based transition program improves safety and quality outcomes.

2. The NCSBN TTP program improves outcomes in new nurses seeking a standardized program. We encourage customization to unit needs and vigilant preceptors.

Conclusions

3. Transition program should be integrated into the hospital for the best outcome results.

4. Many institutions have evidence-based transition programs in place.

5. All groups showed significant improvement in the QSEN competencies, which may reflect the nursing programs are effectively teaching these concepts.

Phase II

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Aims and Significance – Phase II

- Study the use the TTP program in facilities besides hospitals to assess generalizability.

- Study the feasibility of using an evidence-based TTP program with LPN's transition to practice.

Research Question – Phase II

Can NCSBN's transition to practice program be used in non-hospital settings?

Method – Phase II

Design - Mixed-method comparison study using a longitudinal, randomized, multisite design.

Procedure - identical to Phase I. Phase II incorporated telephone interviews of new nurses, preceptors, site coordinators and focus group of state coordinators.

Results – Phase II

Sample

- 23 of the 34 sites hired new nurses (17 nursing homes, 3 home health, 3 public health)
- 48 new nurses
- 18 preceptors

Results – Phase II

Current transition programs in all 34 sites:

- 16 had a structured curriculum
- 22 offered a preceptorship
- 9 offered both a preceptorship and a structured program

Results – Phase II

Quantitative data collected on:

- Patient errors/safety practices;
- Overall and specific competencies;
- Work stress;
- Job satisfaction;
- Evaluation of preceptor;
- Retention

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Results – Phase II

- Empirical analyses not possible with low numbers
- One observation: Phase II reported many more errors than Phase I

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Retention – Phase II

N=48 RNs and LPNs	Facility Retention	Left Voluntarily	Left Involuntarily
Overall	45.8%	45.8%	8.3%
Assignment			
Study	55%	39%	6%
Control	30%	59%	12%
License type			
RNs	53%	41%	6%
LPNs	31%	56%	12.5%
Facility Type			
Nursing Home	35%	54%	10.8%
Home Health	86%	14%	0%
Public Health	75%	25%	0%

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Retention – Phase II

Nursing Homes Only	Retention	Left voluntarily	Left Involuntarily
Study	40%	52%	9%
Control	29%	57%	14%

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Qualitative Themes – Phase II

1. Programs need to be tailored to the site.
2. Preceptorships are valuable.
3. Administration support is essential.
4. Preceptors and new nurses need time for the modules and preceptorship.

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Qualitative Themes (Continued)

5. Resources are thin (email addresses, computers, personnel, etc.).
6. The culture was more positive with home health and public health, than with nursing homes.
7. Transition programs have the potential for a positive change in non-hospital settings.

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Implications

1. Transition programs may have had positive impact on retention in nonhospital sites.
2. Further studies are needed to learn about the impact of transition programs in non-hospital settings on safety and quality outcomes.

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Conclusions from Phases I & II

1. Evidence supports transition to practice programs for improving quality and safety in hospital settings.
2. At this time there are major challenges for implementing transition programs into nursing homes, related to lack of administrative support, personnel and other resources.

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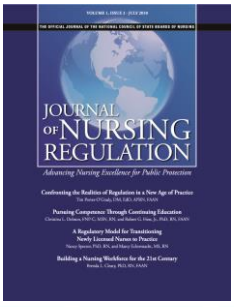
Results Reported in JNR



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