

**S**UCCESSFUL TRANSITION of new graduate registered nurses (NGRNs) into practice is crucial. The demands on the new nurse are increasing as the patient population is presenting with

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(Spector et al., 2015). The ROI results from that study are reported here.

### Literature Review

While there are many direct and indirect outcomes of TTP programs, retention/turnover of NGRNs is the most frequently used outcome. Most studies of TTP report turnover decreases when there is a supportive TTP program for NGRNs (Anderson, Hair, & Toder, 2012; Goode, Lynn, McElroy, Bednash, & Murray, 2013; Spector et al., 2015; Ulrich et al., 2010). A recent NCSBN NGRN TTP study found an overall 12-month turnover rate of 17% (Spector et al., 2015). Further, lower turnover rates have been reported in two national TTP programs, which have been in place for more than 10 years (Goode et al., 2013; Ulrich et al., 2010). Ulrich and colleagues (2010) reported an overall 12-month turnover rate of 7.1% (which dropped to 4.3% after the fifth cohort of NGRNs by which time the program was fully integrated into the organization), compared to a 27% 12-month turnover prior to implementation of the TTP program. Goode and co-authors (2013) found similar results with 12-month turnover decreasing from 12% in the early years of program implementation to 5.4% in later years.

Kovner, Brewer, Fatehi, and Jun (2014) reported data from a nationally representative sample of newly licensed registered nurses during the beginning years of their careers. The researchers found approximately 17.5% of newly licensed RNs leave their first nursing job within the first year and approximately 33.5% leave within 2 years.

Additionally, researchers found a relationship between turnover and patient safety outcomes (Bae, Mark, & Fried, 2010; Duffield, Roche, O'Brien-Pallas, & Catling-Paull, 2009; Spector et al., 2015

cost of the structured residency and an additional 8 weeks of NGRN salary (\$28/hour) from 10 weeks in the traditional orientation to 18 weeks in the residency. In addition, there was a major cost savings in contract labor usage from pre-residency to post-residency, with an estimated savings of up to \$33.7 million.

The results of the current study can provide nurse leaders with additional evidence on demonstrating an ROI when implementing a TTP program. The ROI of the TTP program in this study was determined by comparing the cost of NGRN turnover at hospitals that did not have a structured program for their NGRN onboarding against the cost of NGRN turnover at hospitals with a TTP program.

## Method

**Design.** This was a comparison study using a randomized, controlled, multisite design. Details on the methodology have been published previously (Spector et al., 2015).

**Institutional review board (IRB) approval.** IRB approval was obtained for all sites to protect the rights of participants. NCSBN staff submitted and maintained IRB applications for the sites that could use a central IRB (Western Institutional Review Board). The remaining sites submitted IRB applications to and obtained IRB approval from their local IRBs.

**Procedure.** NCSBN evaluated the ROI on a TTP program utilizing overall turnover rates from Phase I of NCSBN's TTP study (Spector et al., 2015). The TTP program in this study did not replace the hospital's current orientation program. Orientation, which is separate from TTP, includes the process of introducing staff to the philosophy, goals, policies, procedures, role expectations, and other factors needed to function in a specific work setting. Orientation takes place both for new employees and when changes

in nurses' roles, responsibilities, and practice settings occur. Each NGRN in the TTP group and the control group went through the hospital's existing orientation program. Upon enrollment into the study, each NGRN in the TTP group was partnered with a trained preceptor who worked within the same unit/department. Additionally, each NGRN and preceptor in the TTP group completed online training modules, which were designed based on the TTP model, and actively participated in a preceptorship within the TTP program for 6 months. The NGRNs were followed for 1 year after enrollment onto the study.

The researchers examined the onboarding methods used by the control hospitals and noted wide variation in these methods. There were 26 control sites that did not have a structured curriculum and had fewer than six elements the literature describes as essential to transition (patient-centered care, communication and teamwork, quality improvement, evidence-based practice, informatics, safety, clinical reasoning, feedback, reflection, preceptorship, and specialty knowledge in the area of practice). These were classified as limited programs. Other control sites had some structure in their curriculum, which meant they had six or more elements essential to transition, offered a preceptorship, and were not included in this analysis. For the purpose of this article, the researchers evaluated the ROI of the TTP group and the control group with the limited programs (hereafter referred to as Limited Control group), which together represented 1,032 NGRNs from 70 hospitals. The program costs for each of the Limited Control groups were not collected because the curriculum of each program was limited and varied across the Limited Control groups but any cost expended by the Limited Control groups would increase the ROI of the TTP group.

**Data collection.** Data were col-

lected from several sources, including surveys of NGRNs, nurse preceptors, and site coordinators, as well as publicly available data from the Bureau of Labor Statistics (U.S. Department of Labor, 2013a). The retention and turnover data of each NGRN who participated in the TTP study was recorded by the site coordinators at each of the participating study and control sites and were submitted via online surveys. The site coordinators noted the reasons for leaving which included the following voluntary and involuntary reasons:

### Voluntary

- Moved to another geographic area
- Return to school to pursue additional nursing education
- Stressful nature of the work
- Took a different position in clinical/patient care nursing
- Took a different position in non-clinical/patient care nursing
- Took time out for family or other personal reasons
- Other reasons (11%)

completing training modules and time spent with the NGRNs (43 hours total). The time spent in the precepting relationship by the NGRNs and nurse preceptors was collected through surveys at 6 and 12 months.

Additionally, time spent organizing the training was collected by the site coordinator. The site coordinators were surveyed about the amount of time (182

NGRN an

Table 1.

**Table 2.**  
**NGRN Reasons for Leaving**

	TTP Group	Limited Control Group	p-Values
<b>Number Hired</b>	734	298	
Number (%) left	\$113 (15.3%)	\$113 (37.9%)	<.001

total turnover rate of the TTP group was compared to the Limited Control group. The TTP group had a turnover rate of 15.5%, while the Limited Control group had a 26.8% turnover rate ( $p < 0.00$ ).

*TTP group cost and savings.*

The total ongoing maintenance cost per NGRN in the TTP group was \$3,185 in the hospital setting, which includes new nurse and preceptor opportunity costs (time spent to complete TTP modules and face-to-face time between NGRN and preceptor within active preceptorship), site coordinator time to organize and maintain the program, celebration costs for TTP program completion, and

(26.8%). These data support that a structured, evidence-based TTP program results in decreased turnover. A limitation of this study is that it occurred over only a 1-year period. Other longitudinal studies of NGRN TTP programs found NGRN turnover rate declines over time as the TTP program becomes fully integrated into the organization. For example, Ulrich and colleagues (2010) found turnover for their first cohort was 7.1%, though this improved to 4.3% by the fifth cohort.

Using the replacement costs reported by The Lewin Group (2009), the cost analysis shows a positive ROI when using a structured TTP program compared to a limited program, with a cost savings of \$735 per NGRN (2010).

**Table 4.**  
**Calculation of Total Development and Ongoing Cost of TTP Program per NGRN**

Description	Cost per NGRN
TTP Program Development (includes module content development and website development) Initial TTP Program Development Cost ÷ Number of NGRNs that Utilized the TTP Program = \$570,000 ÷ 788 =	\$723
<b>Ongoing Costs per NGRN</b>	
<b>Program Maintenance (includes website maintenance and module revisions)</b>	\$100
<i>nurse Opportunity cost</i> Release time to complete TTP modules and meet with preceptor X NGRN hourly rate X (1 + fringe benefit rate) = 20 hours X \$26.05 X (1 + (7.5 ÷ 21.77)) =	\$700.44
<i>preceptor Opportunity cost</i> Release time to complete TTP modules and meet with NGRN X preceptor hourly rate X (1 + fringe benefit rate) = 43 hours X \$31.84 X (1 + (7.5 ÷ 21.77)) =	\$1,840.80
<i>Site coordinator cost to Organize TTP program for One</i> [Time spent organizing TTP program X site coordinator hourly rate X (1 + fringe benefit rate)] ÷ average number of NGRNs per TTP site = [182 hours X \$35.20 X (1 + (7.5 ÷ 21.77))] ÷ 17 =	\$506.67
<i>celebration cost</i> Celebratory lunch for NGRN and preceptor pair TTP lapel pin awarded to NGRN	\$35 \$2.57
<b>Total Ongoing Costs per NGRN</b>	\$3,185

NGRN = new graduate registered nurse, TTP = transition to practice

**Table 5.**  
**Turnover Cost Savings Calculations**

	Formula	The Lewin Group (2009)	Jones (2008)
<b>Turnover Costs and Rates</b>			
Turnover cost to replace one NGRN (in 2013 USD)	a	\$41,085	\$98,879
Limited Control group	b	26.8%	26.8%
TTP Group	c	15.5%	15.5%
<b>Net Replacement Cost Savings for One NGRN in TTP Group vs. Limited Control Group (in 2013 USD)</b>			
Limited Control group	d = a x b	\$11,011	\$26,499
TTP Group	e = a x c	\$6,368	\$15,326
<i>Turnover savings for one nurse in TTP</i>	f = d - e	\$4,643	\$11,173
<b>Cost of TTP</b>			
Ongoing cost of TTP Program	g	\$3,185	\$3,185
<i>net cost of TTP program after ongoing costs savings</i>	f - g		
Development Cost of TTP Program	i	\$723	\$723
Development and Ongoing Costs of TTP Program	j = i + g	\$3,908	\$3,908
<i>net cost of TTP program after development and ongoing costs savings</i>	f -		

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costs

only a few new nurses can expect a cost savings when implementing and maintaining a TTP program. A total acceptance

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