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### **Evaluation of a Revised Clinical Ladder Program in Addressing Clinical Competence and Performance, Accountability, Professional Growth, Rewards and Benefits, Job Satisfaction and Engagement, and Autonomy and Decision Making**

Vaughn Hansen MSN, RN, NE-BC

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Nursing

DOCTOR OF NURSING PRACTICE PROGRAM

**A DNP PROJECT**

**TITLE:** Evaluation of a Revised Clinical Ladder Program in Addressing Clinical Competence and Performance, Accountability, Professional Growth, Rewards and Benefits, Job Satisfaction and Engagement, and Autonomy and Decision Making

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## Table of Contents

<b>Abstract</b> .....	4
<b>Introduction</b> .....	6
<b>Background and Significance</b> .....	7
<b>Needs Assessment</b> .....	8
<b>Problem Statement</b> .....	9
<b>Aims &amp; Objectives</b> .....	9
<b>Aims</b> .....	19
<b>Objectives</b> .....	10
<b>Review of Literature</b> .....	11
<b>Practice Question</b> .....	11
<b>Search Strategy</b> .....	12
<b>Synthesis of the Literature</b> .....	12
<b>Evidence-Based Translation Model</b> .....	16
<b>Implementation Process</b> .....	16
<b>Methods</b> .....	19
<b>Study Design</b> .....	19
<b>Setting</b> .....	19
<b>Study Population</b> .....	19
<b>Recruitment</b> .....	20
<b>Consent</b> .....	20
<b>Risks/Harms</b> .....	20
<b>Costs and Compensation</b> .....	20
<b>Study Intervention</b> .....	21
<b>Outcomes to be Measured</b> .....	23
<b>Project Timeline</b> .....	23
<b>Resources Needed</b> .....	24
<b>Data Analysis, Maintenance &amp; Security</b> .....	24
<b>Results</b> .....	25
<b>Participant Demographics</b> .....	25
<b>Survey Question Analysis</b> .....	258

<b>Discussion</b> .....	32
<b>Implications for Practice</b> .....	33
<b>Implications for Healthcare Policy</b> .....	34
<b>Implications for Executive Leadership</b> .....	34
<b>Implications for Quality and Safety</b> .....	35
<b>Plans for Sustainability and Future Scholarship</b> .....	36
<b>Conclusion</b> .....	36
<b>References</b> .....	38
<b>Appendices</b> .....	41
<b>Appendix A: SWOT Analysis</b> .....	41
<b>Appendix B: Evidence Table</b> .....	42
<b>Appendix C: Evidence-Based Practice Model</b> .....	49
<b>Appendix D: Doctoral Project Email Announcement</b> .....	50
<b>Appendix E: Clinical Ladder Assessment Tool (modified)</b> .....	51
<b>Appendix F: Project Timeline</b> .....	56
<b>Appendix G: Characteristics of Program Participants</b> .....	58
<b>Appendix H: Mean Scores for Individual Items and Subscores per Survey Wave</b> .....	61
<b>Appendix I: Pairwise Comparisons for Clinical Level per Subscore</b> .....	65

### Abstract

**Background:** The surge of nurses leaving the profession has increased in recent years raising concerns that unless systemwide changes are implemented this trend will increase exponentially for years to come. Healthcare organizations struggle to retain an experienced, competent nursing workforce and seek ways to keep them from leaving. A clinical ladder program is one potential method being implemented in which healthcare organizations mitigate the exodus of nurses and create a healthier work environment.

**Objectives:** This doctoral project aimed to measure the perceptions of how well a revised clinical ladder program influenced the nursing workforce satisfaction in the following areas: clinical competence and performance, accountability, professional growth, rewards and benefits, job satisfaction and engagement, and autonomy and decision making.

**Methods:** A descriptive study was used for this project. All participants of the study site's clinical ladder program were surveyed regarding how well the revised program addressed the content areas. A modified clinical ladder assessment tool was used to create three surveys distributed and responses received over a 15-week study period. Results were analyzed for impact on the stated objectives.

**Results:** The overall grand mean for all three surveys was 3.05 ( $SD = 0.72$ ). Clinical Performance rated highest (3.56,  $SD = 0.74$ ) and Rewards and Benefits rated lowest (2.50,  $SD = 0.96$ ). Total scores ( $F(2, 155) = 0.126, p = .88$ ) and subscores ( $F(9.89, 766.56) = 0.528, p = .87$ ) did not change over time. Clinical Nurse III participants reported a higher total mean score of 3.28 (95% CI (3.11, 3.45) than Clinical Nurse II participants. Differences between time intervals and participants' program tracks were not statistically significant.

**Conclusion:** Survey respondents rated the study site's current nursing clinical ladder program a 3.05 on a five-point scale. Results indicated that the overall general evaluation of the program did not improve or worsen across the three survey waves; however, Clinical Nurse III participants generally rated the clinical ladder program more favorably. Responses did not vary based on participant's program track.

## Introduction

Within the nursing profession, clinical ladder programs (CLPs) are career advancement frameworks often designed for Registered Nurses (RNs) who provide direct patient care and desire to stay at the bedside while still progressing within their career (Allen et al., 2010; Bitanga & Austria, 2013; Riley et al., 2009). The design and structure of a CLP varies among organizations; however, programs are often built around the nursing principles of clinical expertise, research, education, and leadership. Participation in CLPs is most often voluntary requiring prospective candidates to apply for entry into the program and subsequently demonstrate maintenance of mandatory elements to remain in the program. Healthcare organizations frequently use CLPs as a means to promote and retain competent bedside nursing staff in a time when so many are looking to leave the profession in a mass exodus (Brusie, 2022; Yong, 2021).

Research literature indicates that implementation of a stream-lined, well-structured CLP that is designed to encourage recognition, improve nurse engagement, and develop applicable skills increases nurse satisfaction resulting in decreased staff turnover (Drenkard & Swartwout, 2005; see also Allen et al., 2010; Meucci et al., 2019; Moore et al., 2019; Nelson & Cook, 2008; Riley et al., 2009;). Conversely, CLPs that are outdated with cumbersome requirements discourage participation and are noted to be irrelevant in helping to advance one's career. Through a quantitative descriptive study, this doctoral candidate project evaluated how well a revised clinical ladder program addressed the content areas of clinical competence and performance, autonomy, professional growth, rewards and benefits, job satisfaction and engagement, and autonomy and decision making. The Iowa Model of Evidence-Based Practice guided the implementation framework for this project.

### **Background and Significance**

Within the nursing profession, RNs are able to pursue a vast number of career pathways in which to continue their practice. These pathways can be clinical or non-clinical in nature and include roles such as administration, teaching, case management, and traditional bedside care. Career advancement varies within each pathway but is somewhat nebulous for nurses who want to continue providing care at the bedside. In light of this, Bitanga and Austria (2013) note that clinical ladder programs were first developed in the 1970s to recognize and encourage retention of direct care nurses whose limited opportunities for career advancement at the time were chiefly through managerial and executive leadership roles. With numerous nurses moving into administrative roles, however, retention of clinical experts who could provide quality care at the bedside was significantly reduced. Early concepts of CLPs were loosely structured around tenure and assumed clinical expertise. However, Benner's (1984) 'novice to expert' nursing theoretical framework later became the underlying foundation from which many of today's CLPs are constructed (Allen et al., 2010; Bitanga & Austria, 2013; Drenkard & Swartwout, 2009; Korman & Eliades, 2010; Moore et al., 2019; Nelson & Cook, 2008; Riley et al., 2009).

The 2021 bi-annual National Nursing Workforce Survey conducted by the National Council of State Boards of Nursing (NCSBN) and the National Forum of State Nursing Workforce Centers indicated that approximately 60% of actively employed nurses practice care at the bedside as staff nurses (Smiley et al., 2021). With a majority of the nursing workforce providing direct patient care, it is important for organizations to create a work environment in which these staff nurses can grow and thrive professionally. This type of environment is necessary for the recruitment of new nursing staff and vital for retention of current nursing staff (Drenkard & Swartwout, 2009; Korman & Eliades, 2010; Nelson & Cook, 2008). A CLP is one



approach in which organizations can create a mutually beneficial work environment which helps to retain staff. Research showed that organizations with career growth opportunities were more likely to retain employees (Drenkard & Swartwout, 2009; Korman & Eliades, 2010).

### **Needs Assessment**

To better understand the barriers and facilitators in implementing this doctoral project, a needs assessment and analysis was completed to identify the internal strengths and weaknesses as well as the external opportunities and threats (SWOT) of the study site organization (Appendix A). A key potential barrier to the project was the lack of available positions for promotions to occur. Although the CLP was redesigned to improve nursing staff satisfaction, engagement, and retention, the limitation of open and available positions can contrarily be viewed as a hindrance for true career advancement. Another potential barrier was the historical reputation for lack of consistency and accountability within the former CLP. Previously, nursing leaders did not consistently follow or apply CLP guidelines that outlined and defined program elements expected of participants. As well, nurses within the CLP often were not held accountable for not maintaining eligibility requirements necessary to remain in these positions. Conversely, a key potential facilitator included the willingness and desire of a highly engaged nursing workforce to implement a CLP that would help them grow professionally while continuing to provide direct patient care as well as remain with the organization. Many of the nursing staff were eager to advance their career, gain new knowledge, and promote best practices. A fundamental potential facilitator was the support and sponsorship of improving the CLP by nursing leadership including the Chief Nursing Officer (CNO) and other key leaders. Without this backing, it would be very difficult and highly unlikely to make any meaningful changes to the CLP. Having both the staff nurses and nursing leadership equally like-minded in

wanting to make changes to the CLP was important to improve this program and vital for its success.

### **Problem Statement**

As of 2020, it was estimated that there were nearly 4.2 million Registered Nurses in the United States with 68.6% providing direct patient care (Smiley et al., 2021). However, over 22% of the nursing workforce planned to retire within the next five years and many more were expected to leave the profession entirely (Brusie, 2022; Smiley et al., 2021, Yong, 2021). With so many nurses expected to leave the bedside, there was concern the impact this movement would have on providing quality nursing care. While it was important for healthcare organizations to provide competitive salary and commensurate benefits to attract and retain nursing staff, many nurses also look at other facets of an organization such as recognition programs and professional growth opportunities when deciding to accept a new role or stay in a current position (Moore et al., 2019). Clinical ladder programs were created in the 1970s at a time when the nursing profession faced similar concerns with regards to significant staffing shortages as a method to attract and retain nursing staff (Bitanga & Austria, 2013). Studies have demonstrated that organizations with clinical ladder programs have high rates of nurse satisfaction and retention which help keep experienced nurses at the bedside providing patient care (Allen et al., 2010; Drenkard & Swartwout, 2009; Moore et al., 2019; Nelson & Cook, 2008; Riley et al., 2009).

### **Aims & Objectives**

#### **Aim**

There are multiple approaches in which healthcare organizations can take to increase nurse satisfaction, improve engagement, provide professional growth, and reduce staff turnover.

Utilization of a well-designed CLP has shown to be effective in achieving these goals (Allen et al., 2010; Drenkard & Swartwout, 2009; Goodrich & Ward, 2004; Moore et al., 2019; Riley et al., 2009). Recognizing the role clinical ladder programs have played in nursing staff satisfaction, engagement, and retention, the aims of this DNP project were to:

- Understand how satisfied CLP participants were with the current program and determine if there was improved satisfaction with the CLP over time: CLP participants were surveyed to understand their perceptions of how well the current program addressed the content areas of clinical competence and performance, accountability, professional growth, rewards and benefits, job satisfaction and engagement, and autonomy and decision making.

### **Objectives**

The following objectives were expected to fulfill the aims of this DNP quality improvement study project:

1. Collect survey data to determine if the CLP was addressing the study content areas:
  - a. Three scheduled surveys were conducted to determine participants' perceptions of how well the current program was addressing clinical competence and performance, accountability, professional growth, rewards and benefits, job satisfaction and engagement, and autonomy and decision making.
  - b. Goal was to attain 100% participation with multiple surveys disseminated over a 15-week study period.
  - c. First survey was sent after IRB approval; two subsequent surveys were conducted at six-week intervals from the initiation of the first survey.

2. Utilize collected survey data to provide the study site organization's nursing department with feedback for potential improvement within content areas:
  - a. Collected data through a series of three surveys over a 15-week period each seeking to understand CLP participants' perceptions as to how well the CLP addressed survey content areas.
  - b. Overall goal was to see a progressive increase in results over the sequence of surveys with a post-implementation mean score goal that was equal to or greater than 4 on a 5-point Likert-type scale.
  - c. Data was provided to the study site organization's nursing leadership to help understand where areas of improvement within the CLP were needed.

### **Review of Literature**

#### **Practice Question**

A practice question was created to guide the search for associated literature as follows:

P: nurses participating in a clinical ladder program

I: structured clinical ladder program orientation and education series

C: no clinical ladder program orientation and independent growth

O: understanding how well the current program is addressing clinical competence and performance, accountability, professional growth, rewards and benefits, job satisfaction and engagement, and autonomy and decision making.

Among nurses participating in a recently modified clinical ladder program, does a structured clinical ladder program orientation and education series as compared to no clinical ladder program orientation and independent growth address the content areas of clinical

competence and performance, accountability, professional growth, rewards and benefits, job satisfaction and engagement, and autonomy and decision making?

### **Search Strategy**

To set the foundation for this quality improvement project, a review and appraisal of evidence within the literature was completed. Literature search databases Cumulative Index for Nursing and Allied Health Literature (CINAHL) and PubMed were accessed through the George Washington University Himmelfarb Library website. Search terms were created from key characteristics within the practice question: career advancement, career ladder, career mobility (MeSH term), clinical advancement, clinical ladder, job satisfaction (MeSH term), nursing staff (MeSH term), personnel turnover (MeSH term), registered nurse, and staff nurse. The search within CINAHL yielded 281 returned articles and the PubMed search yielded 215 articles.

A cursory review of all returned article titles for suitability as potential supporting evidence for this project resulted in 33 articles remaining for further evaluation. Abstracts of the 33 remaining articles were then examined for adherence to the research question variables. Eligible articles were included if they met the following criteria: (1) peer-reviewed article; (2) utilized quantitative data; (3) reviewed a current or modified clinical ladder program; (4) discussed nurse satisfaction; (5) discussed nurse retention; (6) pertained to registered nurses (7) written or translated into English; and (8) published within the past 20 years. Studies were excluded if they did not meet any of the inclusion criteria. Application of the inclusion and exclusion criteria resulted in the identification of nine articles used as supportive evidence for this descriptive study project.

### **Synthesis of the Literature**

Nine full-text research articles and two non-research articles written for professional nursing publications were appraised for applicability to answer the practice question. All eleven

pieces of evidence addressed in some capacity the study phenomenon of interest – job satisfaction and autonomy, professional growth, and retention of direct patient care nurses as the result of participation in a nursing clinical ladder program. None of the pieces of evidence employed randomized-controlled trial [RCT] (Level I) or quasi-experimental (Level II) research designs since there were no control or intervention groups to study. Inclusive of all full-text articles evaluated, one was a systematic review (Moore et al., 2019) and eight were descriptive studies (Allen et al., 2010; Drenkard & Swartwout, 2005; Goodrich & Ward, 2004; Korman & Eliades, 2010; Meucci et al., 2019; Nelson & Cook, 2008; Riley et al., 2009; Ward & Goodrich, 2007). The two non-research articles from professional nursing publications discussed a clinical ladder program for operating room staff in a rural community hospital (“Clinical Ladders”, 2004) and a briefing on the core concepts of and rationale for having clinical ladder programs in healthcare organizations (Bitanga & Austria, 2013).

The systematic review article screened 498 citation entries as part of the research review resulting in 29 studies deemed eligible for inclusion (Moore et al., 2019). Observed outcomes of the systematic review showed evidence of increased job satisfaction and its positive effects on staff retention in nearly every study analyzed, except for a select few, for organizations with a clinical ladder program. One study in particular examined job satisfaction between an organization with a nursing clinical ladder program and one without and found higher job satisfaction in the institution with the CLP. However, the authors noted that organizational culture was not examined which may also have contributed to the sense of job satisfaction. Another study observed that retention rates increased the longer nurses participated in the CLP. This same study also found that length of participation in the CLP was positively associated with increased staff engagement. Revision and refinement of a CLP also contributed to increased job

satisfaction and was found to improve with each updated adaptation. Moreover, the authors noted increased participation in the CLP with each updated version as well.

Similar to the findings of the systematic review, most of the eight descriptive studies each found increased job satisfaction and/or higher staff retention rates among participants in clinical ladder programs (Allen et al., 2010; Drenkard & Swartwout, 2005; Goodrich & Ward, 2004; Korman & Eliades, 2010; Meucci et al., 2019; Nelson & Cook, 2008; Riley et al., 2009; Ward & Goodrich, 2007). In one study, changes to a CLP increased nurse satisfaction from 47% to 68% and turnover rates among program participants was at 5.2% as compared to 14.2% of the overall organization (Drenkard & Swartwout, 2005). Four studies observed increased participation rates after changes were made to clinical ladder programs; however, in one of those studies only 25% of program participants acknowledged the CLP as a reason to stay in their current organization (Allen et al., 2010; Goodrich & Ward, 2004; Riley et al., 2009; see also Ward & Goodrich, 2007). Two studies noted neutral job satisfaction rates among nurses participating in a CLP, though, one did find higher satisfaction rates for specialty care nurses as compared to primary care nurses (Riley et al., 2009; Nelson & Cook, 2008). One study in particular found that rates of dissatisfaction with the CLP increased correspondingly with a nurse's years of experience (Meucci et al., 2019). The authors, however, acknowledged the difficulty organizations may have in constructing a CLP that meets the needs of nurses at all experience levels.

The two articles found in professional journals did not provide any type of significant statistical data to support the positions and assertions discussed within their publications, but the topics and material within each article was consistent with the research articles discussed previously, so their content was added to this literature review. In their article, Bitanga and Austria (2013) note that clinical ladder programs were designed help facilitate professional

growth and development for nurses who provide direct patient care. The authors further stated that a clinical ladder program was key in an organization's ability to increase job satisfaction and retention among nurses. Although no quantitative data was provided to substantiate these statements, the authors did provide several references from which their content was gleaned. The article "Clinical Ladders Ramp Up Staff's Enthusiasm and Participation" (2004) was written from the perspective of an operating room (OR) department's experience with their own clinical ladder program which was refined over a four- to-five-year period. Similar to the other literature reviewed, the OR department found staff to be more engaged and involved in activities which was attributed to the CLP, although they did not provide any data to support this assertion. The OR department, part of a rural community healthcare organization, stated that their turnover rate was approximately 3% and had been fully staffed for about three years at the time the article was written. The statements within this article were consistent with current literature.

The above listed research and journal articles each added to the body of evidence supporting the assertion that nursing clinical ladder programs helped to increase job satisfaction and reduce turnover among nurses who provide direct patient care at the bedside. Although there was insufficient literature to compare job satisfaction, professional growth, and retention rates of organizations with a CLP versus those with no CLP, research has shown that those organizations with CLPs have higher rates of job satisfaction and retention among program participants versus those who do not participate. Moreover, evidence also showed an increase in job satisfaction and program participation when modifications and updates were made to an existing CLP. The outcome of this doctoral project was to determine if changes made to the clinical ladder program at a specialty hospital located in the northeastern area of the United States addressed the survey content areas of clinical competence and performance, accountability, professional growth,



rewards and benefits, job satisfaction and engagement, and autonomy and decision making. See Appendix B for a summary evidence table of the articles reviewed.

### **Evidence-Based Translation Model**

The guiding implementation framework for this initiative was the Iowa Model-Revised: Evidence-Based Practice to Promote Excellence in Health Care (Iowa Model); see Appendix C. The Iowa Model utilizes a multi-step process to facilitate implementation of evidence-based clinical practice changes from current research findings. Originally developed by Dr. Marita Titler and associates at the University of Iowa Hospitals and Clinics and College of Nursing, the Iowa Model was first introduced in 1994 and most recently revised in 2015 (Titler et al., 2001; Iowa Model Collaborative [IMC], 2017). Revisions to the Iowa Model were made in response to numerous safety and quality transformations within the healthcare industry necessitating increased promotion and acceptance of adopting evidence-based practice changes (IMC, 2017). The Iowa Model was chosen specifically for this initiative because of its flexibility for use in broad organizational changes or changes within a single department and has been used in a variety of healthcare settings both nationally and internationally (Doody & Doody, 2011).

### **Implementation Process**

The first step in the Iowa Model was to identify triggering issues or opportunities for change (IMC, 2017). The trigger stems from clinical or patient issues, new organizational initiatives, required regulatory changes, or changes in philosophy of care. The identified trigger for this doctoral project centered around a new initiative by the study site organization to modify its clinical ladder program to improve engagement and job satisfaction as well as provide professional growth opportunities for nurses who provide direct patient care. Next, a clinical question or purpose was developed and determined whether or not to be a priority for the

organization; if not, another issue or opportunity would have been considered. Because of recent of recent changes made to the previous clinical ladder program, the project was deemed a priority for the study site department and organization.

Once a topic was deemed to be a priority, the next step was to form a team to see the initiative through (IMC, 2017). This project was led by the doctoral student with executive sponsorship leadership provided by the study site's Assistant Vice President of Perioperative Services and the Assistant Vice President of Nursing Excellence & Professional Development. Stakeholders discussed and agreed upon the survey questions to be used as part of the project intervention. The formation of the survey questions was guided by the outcomes to be measured as part of the study.

Next, the team gathered, evaluated, and synthesized a body of evidence by conducting a review of research literature to determine if sufficient evidence was present to move forward with the project (IMC, 2017). The Iowa Model noted that if there was not sufficient evidence, additional research should be conducted to include other expert sources such as professional organizations. The literature review conducted by the doctoral student resulted in nine research articles and two non-research articles from professional publications supporting implementation of the intended intervention thereby garnering sufficient evidence to move forward with the proposed project.

After determination of sufficient evidence, the team was guided to design and pilot practice change and evaluate if the intended change was appropriate for full adoption into practice; if not, alternative practice changes should have been considered (IMC, 2017). To ascertain effectiveness of this initiative, a descriptive study was conducted to determine if the changes to the previous clinical ladder program have met the desired outcomes of addressing the

content areas of clinical competence and performance, accountability, professional growth, rewards and benefits, job satisfaction and engagement, and autonomy and decision. The doctoral student disseminated the study surveys, compiled responses, and provided results to organizational leadership to determine effectiveness of recent changes to the CLP and if further changes needed to be made.

The next step was to integrate and sustain the practice change by hardwiring the change and reinforcing as needed (IMC, 2017). A review of the literature found that healthcare organizations with a clinical ladder program had higher rates of job satisfaction and retention among program participants (Allen et al., 2010; “Clinical Ladder”, 2010; Drenkard & Swartwout, 2005; Goodrich & Ward, 2004; Korman & Eliades, 2010; Moore et al, 2019; Ward & Goodrich, 2007). The literature also showed that program participation increases when perceived positive changes are made to a CLP as well as improved job satisfaction with each updated version of a modified program (Allen et al., 2010; Goodrich & Ward, 2004; Riley et al., 2009; see also Ward & Goodrich, 2007). Anticipating similar findings as a result of this project, it was important for the study site organization to hardwire the changes made into current practice which required ensuring program participants and their supervisors were adhering to CLP requirements in order to remain in the program.

The last step was to disseminate and share findings with others (IMC, 2017). Results of this doctoral study were disseminated to members of the study site’s organizational leadership, nursing leadership, the nursing Professional Development department, CLP participants, as well as the nursing department in general. Sustained change is expected to be monitored through anticipated future surveys to ensure the clinical ladder program continues to meet the needs of its participants and the organization.

## **Methods**

### **Study Design**

This descriptive study doctoral project utilized a semi-longitudinal cohort survey design method to gather the required data. The proposed survey intervention was intended to collect CLP participants' responses, at three scheduled timepoints during the study period, on their perceptions of the modified CLP. Each of the three surveys was sent to all current CLP participants who were educated on the proposed intervention and rationale for conducting this study.

### **Setting**

This DNP project took place in a 205-bed not-for-profit, specialty-service surgical hospital with 51 operating rooms and located in the northeastern region of the United States. The study site performs approximately 36,000 surgeries per year and, as a Magnet organization, continually evaluates nursing satisfaction and turnover as key performance indicators (KPIs). Although there were numerous hospitals in the local area that provided similar services as those at the study site, this organization has won numerous awards for patient outcomes and care and was highly regarded in its field.

### **Study Population**

A non-probability, convenience sampling was used for this descriptive study as it included all participants in the clinical ladder program who provide direct patient care. The clinical ladder program was comprised of nurses with the titles of Clinical Nurse II and Clinical Nurse III who have varying levels of clinical proficiency and nursing expertise as well as varying levels of tenure within the clinical ladder program itself. It was expected that the same individuals would participate throughout the duration of the project and were asked to respond to

all three surveys. Nurses promoted into the clinical ladder program after the first survey was sent were not deemed eligible to participate in the study. Excluded were all other nurses not in the clinical ladder program.

To estimate an appropriate sample size for the descriptive study, a statistical power analysis was considered. Applying an  $\alpha$  of .05, power of 80%, and assuming a moderate effect size ( $d=0.5$ ), it was estimated that a minimum of 128 responses for each survey was needed. All 117 members of the clinical ladder program were surveyed for perception of how well the CLP addressed the content areas; this number fell short of the calculated appropriate sample size.

### **Recruitment**

After IRB waiver was attained, participants in the clinical ladder program were provided with general information regarding the planned descriptive study and the intended survey intervention by email. A list of CLP participants was attained from the study site organization. Information provided in this email was reinforced within each of the three surveys; see Appendix D for an outline of the information discussed.

### **Consent**

Completion of each survey constituted implied consent to participate in the study as noted in the introductory project email and subsequent surveys.

### **Risks/Harms**

There were no known or anticipated risks with this descriptive study.

### **Costs and Compensation**

Minimal expenses were incurred by the doctoral student for this project. The SurveyMonkey subscription fee was \$150 for six months. A biostatistician was hired through UpWorks for \$200 to assist in analysis of the data. All communication with the clinical ladder

program participants was conducted through the study site's email system for which there was no expense. The clinical ladder program participants were employed by the study site and did not receive any additional financial compensation for their participation in this descriptive study project. The length of each survey was limited to 15 questions to minimize disruption to the participants' workday.

### **Study Intervention**

In healthcare organizations that have them, clinical ladder programs were noted to have positive impacts on increased job satisfaction and higher retention rates among nursing staff (Allen et al., 2010; Drenkard & Swartwout, 2009; Moore et al., 2019; Nelson & Cook, 2008; Riley et al., 2009). To be effective, CLPs should be designed to meet the needs of the organization and, just as importantly, those of the nursing staff (Moore et al., 2019). Although a CLP may differ between organizations, a successful program is grounded in an organization's culture, promotes competency and critical thinking, fosters a sense of pride and professionalism, and is meaningful to the participants. To understand if a CLP is meeting the needs of its participants, organizations must periodically re-evaluate the structure of its program, invite feedback on positive and negative aspects of the program and then make appropriate modifications (Allen et al., 2010; Drenkard & Swartwout, 2005; Goodrich & Ward, 2004; Meucci et al., 2019; Riley et al., 2009; Ward & Goodrich, 2007). This descriptive study project surveyed an organization's current clinical ladder program participants to determine if recent modifications to that program met the needs of its participants by looking at the content areas of clinical competence and performance, accountability, professional growth, rewards and benefits, job satisfaction and engagement, and autonomy and decision making.

After IRB waivers were received, an email was sent from the doctoral student to the clinical ladder program participants using their organizational email addresses. This email informed the participants of the descriptive study being conducted, its background and significance, as well as the timing of the planned surveys that were part of the study. In this email, the study subjects were informed that participation in the study was voluntary and that responding to any of the three surveys implied consent to participate in the study and that their responses would remain anonymous.

One week after the informational email was sent, the doctoral student disseminated the first survey. This electronic survey was created and sent through SurveyMonkey, an on-line survey distribution service. A link to the electronic survey was sent by email to all clinical ladder program participants using their organizational email addresses. The questions on this survey focused on perceptions of how well the revised clinical ladder program addressed the content areas of clinical competence and performance, accountability, professional growth, rewards and benefits, job satisfaction and engagement, and autonomy and decision making. Project participants were given three weeks to complete and submit the first survey.

Two subsequent electronic surveys were sent successively three weeks after the close of the previous survey. These surveys were also created and disseminated through SurveyMonkey. As with the first survey, a link to each of the two successive surveys was sent by email, at the appropriate time, to all clinical ladder program participants using their organizational email addresses. For continuity, the same questions were asked on all three surveys. Individuals had three weeks from the time that each electronic link was sent to complete the survey.

Each of the three surveys reminded participants that responding to the survey was voluntary but doing so implied consent to participate in the study and that all responses remained

anonymous. If a nurse was promoted into the CLP at any time in the duration of the study, they were excluded from the study and not sent a survey. All survey data was compiled by the doctoral student and results shared at the conclusion of the study. Although the doctoral student was previously employed by the study site organization, there was no suspected possible coercion of the study participants.

### **Outcomes to be Measured**

The outcome to be measured was understanding how well the revised clinical ladder program at the study site organization addressed the survey content areas. The surveys were designed using a modified version of the ‘Clinical Ladder Assessment Tool’ (Appendix E). The ‘Clinical Ladder Assessment Tool’, used in previous studies on CLPs, was created as part of a doctoral program project and shown to be a valid and reliable tool (Strzelecki, 1989; see also Riley et al., 2009; Ward & Goodrich, 2007). The original version of this tool only allowed for ‘yes’ and ‘no’ responses, however, it was modified to incorporate a five-point Likert-type scale for better data measurement in this study. The assessment tool consisted of multiple sections with questions related to accountability, clinical competence, clinical performance, professional growth, rewards and benefits, job satisfaction, and autonomy and decision making as they relate an organization’s CLP. The doctoral student attempted to reach out to the original survey author for permission to modify and use the survey but was unable to make contact.

### **Project Timeline**

The full doctoral project, including planning, implementation, and evaluation, was conducted over a 14-month period. Beginning in August 2022, the doctoral project approval process took approximately two weeks. An IRB waiver through George Washington University was approved in October 2022 and an IRB waiver through the study site organization was



approved in late November 2022. Announcement of the doctoral study and the first survey were disseminated in December 2022; the first survey was sent electronically one week after the project announcement. The remaining two surveys were disseminated in January 2023 and March 2023. Data analysis and evaluation of project outcomes were completed in June 2023. Dissemination of results was presented in October 2023. See Appendix F for a Gantt chart view of the project timeline.

### **Resources Needed**

Most resources for this doctoral project were provided by the study site organization as the project was considered important by the study site organization. Study participants were directly employed by the study site organization and participated in the clinical ladder program. Email addresses for the study participants was provided by the study site organization. The ‘Clinical Ladder Assessment Tool’ was discovered during research for the doctoral project. The electronic surveys were created, disseminated, and responses collected using a web-based survey platform.

### **Data Analysis, Maintenance & Security**

Data for this project was collected, maintained, and secured solely by the doctoral student on a secure electronic device that was kept in the student’s primary residence of which no one from the study site organization had access. IBM Statistical Package for Social Sciences (SPSS) Statistics 28 software was used to store and analyze project data (IBM, n.d.). This software was free to download and use through George Washington University. SPSS is an easy-to-use software that allows for quick organization of data and multiple statistical functions for accurate data analysis. Survey responses were collected through the SurveyMonkey website and exported directly into the SPSS software as each of the three surveys were completed. The export function

within SurveyMonkey allowed text responses to be translated into a numerical value (e.g. – ‘Very Small Extent’ = 1, ‘Small Extent’ = 2, etc.) for statistical analysis.

The ability to directly export data as well as the translation of numerical values reduced potential errors from having to manually enter responses into SPSS. The SPSS software checked for data accuracy by detecting invalid values as well as patterns of missing data (IBM, n.d.). Accuracy of the exported data was double-checked by the doctoral student by comparing responses to five random surveys within SurveyMonkey to the exported data in the SPSS software for each survey wave. This step was intended to verify accurate translation of text responses into their correct numerical value. Partially incomplete surveys were included in the data analysis; however, missing data affected the valid *N* for each survey question. Three surveys in wave two and two surveys in wave three were not included in the final analysis as fewer than five questions received responses.

## **Results**

### **Participant Demographics**

In each wave, surveys were sent to the same 117 CLP participants for a total of 351 surveys sent. Overall, 164 survey responses were received, however, three surveys in wave two and two surveys in wave three were not included in the final analysis as fewer than five questions received responses. Therefore, 159 valid survey responses were received for an overall average of 45.3% response rate. The first and third surveys had the highest valid response rates at 56 each (47.9%) and the second survey had the lowest valid response rate with 47 (40.1%) responses received. Appendix G, Table 1 presents results for all demographic questions.

### ***Program Track***

Clinical ladder participants program tracks are divided into four specialty areas: Ambulatory, Inpatient, Post-Anesthesia Care Unit (PACU), and Perioperative. Overall, the highest number of respondents were from PACU – 48 (31.0%) and Inpatient – 47 (30.3%). In total there were 42 (27.1%) respondents from the Perioperative track and 18 (11.6%) from the Ambulatory track. Four respondents chose not to answer this question, so it is unclear in which track they participate. PACU had the highest number of responses, 18 (32.7%) in the first survey wave, Inpatient the second survey wave with 15 (32.6%) responses, and both PACU and Inpatient with 17 (31.5%) responses each in the third survey wave.

### ***Clinical Level***

Participants in the clinical ladder program work under the titles of Clinical Nurse II (CN II) or Clinical Nurse III (CN III). Across each survey wave, CN IIs had the highest response rates (34 (60.7%), 25 (56.8%), and 31 (56.4%)) with an overall response rate of 90 (58.1%) participants. CN IIIs had an overall response rate of 60 (41.9%) participants. Four respondents chose not to answer this question.

### ***Years of Experience***

The highest response rates across all three survey waves were from CLP participants with 5-10 years of nursing experience (28 (50.0%), 19 (43.2%), and 18 (33.3%)) for an overall response rate of 65 (42.8%) participants. The second highest response rate was from CLP participants with 11-15 years of nursing experience (10 (17.9%), 11 (26.2%), and 17 (31.5%)) for an overall response rate of 38 (25.0%) participants. Six respondents on both the first survey wave (10.7%) and second survey wave (14.3%) identified as having more than 30 years of nursing experience; this was the third highest response rate for those two surveys. Overall, nurses with

more than 30 years of nursing experience had the third highest response rates (18 (11.8%)).

Seven respondents chose not to answer this question.

### ***Education***

In all three surveys, approximately three-fourths of all respondents (114 (73.5%)) indicated their highest level of education as having a bachelor's degree in nursing; this was fairly consistent throughout the survey process – 40 (71.4%), 32 (69.6%), and 42 (79.2%). Thirty-one respondents (20.0%) had a master's degree in nursing and 10 respondents (6.5%) had masters' degrees in non-nursing related majors. No respondents had a doctoral-level degree, and four respondents overall chose not to answer this question.

### ***Age***

Nearly 30% of all respondents (46 out of 154) for all three surveys were between the ages of 35-44 years old. More than one-fourth of respondents were between the ages of 25-34 years old (41 (26.6%)) and slightly more than 20% (31) of respondents were 45-54 years old. Twenty-four respondents (15.6%) were 55-64 years old, and two respondents (1.3%) were over the age of 65 years old. Ten respondents (6.5%) preferred not to answer the question, while an additional five respondents did not respond to the question. Remarkably, the response rates for age groups 35-44, 45-54, and 55-64 increased at each survey point while the response rates for 25-34-year-olds decreased over time.

### ***Gender***

Overwhelmingly, slightly more than 80% of respondents (125) identified as female and 11.6% (18) identified as male. Twelve respondents (7.7%) preferred not to answer the question and four did not respond to the question. No respondents identified as 'non-binary', 'transgender', or 'other'.

***Race***

Overall, slightly less than 50% of respondents (75) identified as ‘White’, and 13.8% (21) identified as ‘Asian’. Nine respondents (5.9%) identified as ‘Hispanic or Latino’, seven (4.6%) identified as ‘Black or African American’, three (2.0%) identified as ‘Native Hawaiian or Pacific Islander’, and two (1.3%) identified as ‘Native American or Alaska Native’. A total of 35 respondents (23.0%) preferred not to answer the question and an additional seven did not respond.

**Survey Question Analysis**

To answer the first aim of this project – to what extent does the current clinical ladder program address the content areas – the mean score and standard deviation for each question on each of the three surveys was analyzed on a 5-point scale. The mean score of each question for each of the three surveys was reported independently (S1Q1, S2Q1, S3Q1, etc.) as well as an overall mean score for that question. The mean score was intended to reflect the CLP participants’ perception of how well the current program is addressing the content areas. The goal was to achieve a score of  $\geq 4$  on a 5-point scale for each question; any question that fell below this threshold will be viewed as an opportunity for improvement by the organization.

None of the three surveys attained a total mean score of  $\geq 4$  on a 5-point scale. The overall grand mean for all three surveys was 3.05 ( $SD = 0.72$ ). The total mean score for each survey wave was 3.02 ( $SD = 0.67$ ), 3.08 ( $SD = 0.70$ ), and 3.05 ( $SD = 0.78$ ) respectively. The total means for each of the seven subscores also fell below the desired goal on all three surveys. Overall, Clinical Performance was the highest rated subscore (3.56,  $SD = 0.74$ ) and Rewards and Benefits was the lowest rated subscore (2.50,  $SD = 0.96$ ). No individual question on any of the three surveys received a score of  $\geq 4$  on the 5-point scale. The highest total mean score (3.78,  $SD =$

0.73) was associated to the question, “To what extent does your job expectations fit into the overall standards of nursing practice?” and was consistently the highest score across all three surveys. The lowest total mean score (2.45,  $SD = 0.99$ ) related to the question, “To what extent is advancement in the CLP accompanied by public and formal recognition from within [the organization]?” and, similarly, was consistently the lowest score in each survey. Although the goal of achieving a mean score of  $\geq 4$  on a 5-point scale was not met, the overall current clinical ladder program content somewhat meets the needs of its participants. Appendix H, Table 2 displays the data for all three surveys.

To answer the second aim of this project – does continued participation in the CLP increase satisfaction with the program – the score for each question was compared between each of the three surveys using an analysis of variance (ANOVA) statistical method to look for statistical differences. Comparison of the scores for each question between each survey is intended to see if CLP participants’ perceptions of the program increased or decreased over time. The goal of this analysis was to see a statistically significant increase in the scores of each question over the course of the three surveys. A decrease in the scores over time was viewed as an opportunity for improvement by the organization.

To understand how evaluations of the overall clinical ladder program changed over time, a one-way ANOVA was run using the total score as the dependent variable, and the survey wave (three levels) as the independent variable. There was no evidence to support that the total scores were different across the three survey waves ( $F(2, 155) = 0.126, p = .88$ ). As such, post-hoc comparisons were not interpreted. This result indicates that the overall general evaluation of the program did not improve or worsen across the three survey waves.

Responses to the individual items across the three survey waves were aggregated into seven subscores: Clinical Competence, Accountability, Clinical Performance, Professional Growth, Rewards & Benefits, Job Satisfaction & Engagement, and Autonomy & Decision Making. To evaluate any subscore changes over the course of the project, a mixed ANOVA was run using the survey wave (three levels) as the between-subject factor, and the subscore (seven levels) as the within-subject factor. Although participants rated the clinical ladder program differently depending on the subscale topic, there was no evidence that these scores changed across the three survey waves ( $F(9.89, 766.56) = 0.528, p = .87$ ).

Individual questions were next reviewed to understand results at a higher granularity. A mixed ANOVA was run using the survey wave (three levels) as the between-subjects factor, and the individual item (fifteen levels) as the within-subjects factor. As with prior results, there was no evidence that individual item scores changed across the three survey waves ( $F(19.11, 1404.90) = 0.652, p = .87$ ).

Since scores did not significantly change over time alone, an examination of results by clinical ladder level (Clinical Nurse II, Clinical III) was also conducted. First, looking at the clinical ladder program as a whole, a two-way ANOVA was run with clinical level (two levels) and survey wave (three levels) as independent variables and total score as the dependent variable. Results revealed no significant interaction between clinical level and survey wave ( $F(2, 149) = 0.253, p = .77$ ) and no significant effect of survey wave ( $F(2, 149) = 0.251, p = .78$ ); however, there was significant effect of clinical level ( $F(1, 149) = 5.493, p = .001$ ). Clinical Nurse II participants had a mean total score of 2.90 (95% CI (2.75, 3.04)), while Clinical Nurse III participants reported a mean total score of 3.28 (95% CI (3.11, 3.45)) resulting in an estimated

mean difference of -0.38 (95% CI (-0.61, -0.16)). This indicates that Clinical Nurse III participants generally rated the clinical ladder program more favorably.

Next, an analysis of subscores by clinical level over the three survey waves was conducted using a mixed ANOVA with survey waves (three levels) and clinical levels (two levels) as the between-subjects factors, and the subscore (seven levels) as the within-subjects factor. As before, there was a significant effect of subscore ( $F(4.974, 741.184) = 63.816, p < .001$ ), no significant interactions between subscale and survey wave or subscale, survey wave, and clinical level, but a significant interaction between subscale and clinical level ( $F(4.974, 741.184) = 2.929, p = .01$ ). To further explore this interaction, pairwise comparisons between levels for each subscale were studied. As can be seen in Appendix I, Table 3, Clinical Nurse III participants rated the clinical ladder program more favorably on four of the seven subscales: Clinical Competence, Rewards & Benefits, Job Satisfaction & Engagement, and Autonomy & Decision Making. The biggest difference was found for Job Satisfaction & Engagement, with Clinical Nurse III participants rating the program on average 0.64 (95% CI (0.35, 0.92)) points higher than Clinical Nurse II participants.

For additional granularity, a mixed ANOVA was conducted using survey wave (three levels) and clinical level (two levels) as the between-subjects factors, and the individual items (fifteen levels) as the within-subjects factor. However, Box's test of equality of covariance matrices was significant ( $M = 1085.166, F(600, 22715.912) = 1.27, p < .001$ ), so interpretation of the results could not be completed.

Finally, as there was interaction between clinical level and subscores, a similar analysis was conducted for the program tracks as well – Ambulatory, Inpatient, PACU, and Perioperative. A two-way ANOVA was run with the program track (four levels) and survey wave (three levels)



as independent variables and total score as the dependent variable. Levene's test for equality of variances based on the mean was significant ( $p = .032$ ), so the results were not interpreted. To look at the change of subscores by program track over the three survey waves, a mixed ANOVA was run using survey wave (three levels) and program track (four levels) as the between-subjects factors and the subscore (seven levels) as the within-subjects factor. There was a significant effect of subscore ( $F(4.93, 257.08) = 53.310, p < .001$ ), but no significant interactions, concluding that the value of subscores did not vary based on the participant's program track. Last, a mixed ANOVA was conducted using survey wave (three levels) and program track (four levels) as the between-subjects factors, and the individual items (fifteen levels) as the within-subjects factor. Again, Box's test of equality of covariance matrices was significant ( $M = 575.693, F(240, 5327.03) = 1.193, p = .024$ ), so the results were not interpreted.

Overall, participants in the CLP rated the program as somewhat addressing the content areas with a grand mean score of 3.05 on a 5-point scale. Additionally, all clinical ladder program participants did not rate the program more or less favorably over time nor were ratings statistically different based on a participant's program track. Some interaction was seen between clinical level and subscores, whereby Clinical Nurse IIIs rated the program more favorably, however, there were no significant differences between clinical levels when rating the general program as well as the individual questions over time.

### **Discussion**

In recent years, healthcare organizations have struggled to retain an experienced, competent workforce (Brusie, 2022; Smiley et al., 2021; Yong, 2021). Studies have demonstrated that a well-designed clinical ladder program helps keep these nurses at the bedside providing safe, quality patient care (Allen et al., 2010; Drenkard & Swartwout, 2005; Moore et

al., 2019; Nelson & Cook, 2008; Riley et al., 2009). For a clinical ladder program to be effective, however, it must meet the needs of the organization as well as those who participate in the program (Moore et al., 2019).

The goals of this doctoral project were to understand how satisfied CLP participants were with the current program as well as determine if there was improved satisfaction with the CLP over time. Through the implementation of this semi-longitudinal cohort survey-design study, CLP participants were able to provide their perceptions on the study site organization's current clinical ladder program. Although the overall general evaluation of the program did not improve or worsen across the three survey waves, areas of opportunities and continued improvement were identified.

### **Implications for Practice**

Participants in the CLP are often viewed as the clinical leaders within each unit or department, therefore, should be utilized in most all clinical practice initiatives and improvement activities. Their skills and knowledge can be leveraged when orienting new nurses to the organization. Clinical Nurse IIs (CN II) may be the primary preceptor since Clinical Nurse IIIs (CN III) often act in a Charge Nurse role when on duty. However, CN IIIs could potentially shadow a new nurse towards the end of his/her orientation period to evaluate his/her proficiency with critical thinking and clinical practice skills. The CN II and CN III continue to act as mentors for new nurses once they come off orientation. As well, when new equipment, supplies, or skills are introduced, CN IIs and CN IIIs can act as a resource for their staff nurses through additional or advanced training from nurse educators. If individual or unit nursing practice deficiencies are identified, the CN IIs and CN IIIs should be involved in the process of creating an action plan for clinical practice improvement and retraining staff.

**Implications for Healthcare Policy**

Continuing to leverage their clinical practice expertise, CLP participants should be involved in departmental and organizational nursing policy development and review. When a new nursing policy needs to be developed, CLP participants can assist in the research of current evidence-based literature to aid in the creation of these new policies. Existent policies should be reviewed at regularly scheduled intervals as determined by the healthcare organization to ensure they are up-to-date and relevant. CLP participants can assist in searching for new or updated evidence-based literature that may have been changed since the last time the policy was reviewed and assist in updating the policy to match contemporary standards.

In addition to participating in organizational policy development and review, the CLP may want to consider adding a healthcare policy component to its current participation requirements. This component can be fulfilled in several ways. For example, CLP participants can review potential local, state, or national healthcare policy changes, such as mandatory staffing requirements, and how they would affect the organization if they were to pass. This would later be presented and discussed at a CLP meeting or workshop with other participants. Additionally, CLP participants could organize a letter-writing campaign to an elected official regarding a current healthcare policy issue relevant to the organization. Or, CLP participants could participate in healthcare policy lobby efforts by attending rallies organized by local, state, or national nursing advocacy organizations.

**Implications for Executive Leadership**

Within the study site organization, executive leadership is committed to attracting and retaining quality, talented nurses such as those in the advanced roles within the clinical ladder program. Results of this study provide executive leadership with a better understanding of how

participants within its CLP perceive the current program and identifies areas for future improvements as well as areas of continued growth and development. In particular, the area of Rewards and Benefits was consistently the lowest scoring section overall. Within this section, the question “To what extent is advancement in the CLP accompanied by public and formal recognition from within [the organization]?” rated the lowest score across all three survey waves and may be the best opportunity to improve upon. One solution to this issue could be sending an organization-wide email announcing newly promoted nurses into the CLP possibly followed by formal recognition at unit or department meetings. Since this question is not related to compensation or other benefits, it may be one of the easiest issues to resolve.

### **Implications for Quality and Safety**

Because CLP participants are viewed as clinical nursing leaders, the CLP and its participants should exhibit a commitment to quality and safety within the organization. Within the CLP itself, there should be a quality and safety component as part of the program’s participation requirements. CLP participants can fulfill this component and demonstrate their commitment to quality and safety in several ways. First, CLP participants can be involved in the review of clinical incidents and adverse events within their unit or other units within the nursing department. Second, CLP participants can also present a quality and safety case study for discussion within their unit, the nursing department, or at a CLP program meeting. This case study could be based on an actual event within the organization or a research article of interest. Last, CLP participants can lead a quality and safety improvement project on their unit or within the nursing department and present the findings to the appropriate audience(s) once completed. These are a few examples of how CLP participants can contribute to quality and safety measures within the organization.

### **Plans for Sustainability and Future Scholarship**

This doctoral project has provided the study site organization with baseline feedback of perceptions of the current clinical ladder program from its participants. Future utilization of the electronic modified clinical ladder program assessment tool will allow for easy continuous annual or bi-annual monitoring of the CLP at the study site organization at potentially no cost if done internally. Continuous monitoring of perceptions of the program over time can provide the feedback necessary for any potential future changes.

Implementation of this same process also allows for real-time feedback on any changes made to the program. This real-time feedback provides the study site organization with valuable information as to whether the changes made to the program were well-received or need additional modifications. The study site organization can also re-survey CLP participants over time to see if attitudes towards changes to the program made vary over time.

### **Conclusion**

Although the number of actively licensed nurses has increased in recent years, healthcare organizations are struggling to attract and retain competent nursing staff to provide quality safe patient care directly at the bedside – and there is fear that this struggle will continue for years to come (Brusie, 2022; Smiley et al., 2021; Yong, 2021). To minimize the upsurge of staff nurses leaving the workforce it is imperative that healthcare organizations find solutions to best retain experienced clinical bedside nurses. Several studies have demonstrated that healthcare organizations with a clinical ladder program have high rates of job satisfaction and retention among nurses who participate in these programs (Allen et al., 2010; Bitanga & Austria, 2013; “Clinical Ladders”, 2004; Drenkard & Swartwout, 2005; Goodrich & Ward, 2004; Korman & Eliades, 2010; Moore et al., 2019; Ward & Goodrich, 2007). These studies have found that well-

designed CLPs can provide bedside nurses with a sense of purpose, recognition, and accomplishment which leads to increased job satisfaction and retention. The purpose of this DNP descriptive study project was to understand the attitudes towards a revised clinical ladder program within the study site organization. The Iowa Model of Evidence-Based Practice was used to guide implementation and evaluation of this doctoral project. Results of this study indicated that the overall general evaluation of the study site's CLP did not improve or worsen across the three survey waves. Rewards and Benefits, however, was consistently the lowest rated subsection, therefore, future potential changes pertaining to this subsection could have a significant impact on the overall perception of the program. As well, Clinical Nurse III participants generally rated the clinical ladder program more favorably suggesting an opportunity to understand specific differences in perceptions of the CLP from Clinical Nurse II participants. This study provided the study site organization with a better understanding of how participants within its CLP perceive the current program and identified areas for future improvements as well as areas of continued growth and development.

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Appendix A

Strengths, Weaknesses, Opportunities, Threats (SWOT) Analysis

	<p style="text-align: center;"><b>Helpful</b></p> <p style="text-align: center;">To achieving the objective</p>	<p style="text-align: center;"><b>Harmful</b></p> <p style="text-align: center;">To achieving the objective</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>Internal Origin</b></p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">{Attributes of the organization }</p>	<p style="text-align: center;"><b>Strengths</b></p> <ul style="list-style-type: none"> <li>• Specialty hospital in northeastern United States</li> <li>• Highly regarded reputation for surgical/clinical outcomes</li> <li>• Multiple Magnet awards</li> <li>• Strong support for staff retention from upper leadership</li> <li>• Highly engaged nursing workforce; genuinely want to grow professionally</li> <li>• Low nursing staff turnover</li> </ul>	<p style="text-align: center;"><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>• Limited opportunities for promotional/career advancement</li> <li>• Communication and messaging; difficult to disseminate information to staff</li> <li>• Nursing leadership; high turnover of CNO in past five years</li> <li>• Single, not-for-profit facility limits resources compared to multi-hospital systems</li> <li>• Lack of accountability within CLP</li> </ul>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>External Origin</b></p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">{Attributes of the organization }</p>	<p style="text-align: center;"><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• Hub and spoke model for expansion of services to surrounding local communities and key geographical areas</li> <li>• Partnership with other hospitals to provide specialty services</li> <li>• Multiple applicable specialty nursing certifications</li> <li>• Continual influx of highly qualified job candidates</li> </ul>	<p style="text-align: center;"><b>Threats</b></p> <ul style="list-style-type: none"> <li>• Proximity to larger multi-hospital systems with more advantageous CLPs</li> <li>• Applicability and appropriateness of CLP to regional office positions</li> <li>• Location of main facility can make daily work commute long and difficult</li> <li>• Working in organization that provides limited medical services could be viewed as monotonous and uninteresting</li> <li>• Reimbursement threat could cause economic impact</li> </ul>

### Appendix B

#### Evidence Table

Article Number	Author & Date	Evidence Type	Sample, Sample Size, Setting	Findings that Help Answer the EBP Question	Observable Measures	Limitations	Evidence Level & Quality
1	Allen (2010)	Mixed methods, non-experimental	<p>Quantitative</p> <ul style="list-style-type: none"> <li>- 1,499 Nursing Advancement Program (NAP) participants</li> </ul> <p>Qualitative</p> <ul style="list-style-type: none"> <li>- 33 RNs promoted since implementation of updated NAP</li> <li>- Cincinnati Children's Hospital Medical Center</li> </ul>	<ul style="list-style-type: none"> <li>- revised program kept NAP participants more engaged and involved through periodic checkpoints</li> <li>- NAP provides sense of self-fulfillment</li> <li>- Changes resulted in increased job satisfaction</li> <li>- Provides for environment of growth</li> </ul>	<ul style="list-style-type: none"> <li>- rate of program applicants/participants</li> <li>- retention rate of NAP participants vs. non-participants</li> <li>- cost/benefit analysis of retention vs. turnover</li> </ul>	<ul style="list-style-type: none"> <li>- limited focus group participation</li> <li>- large discrepancy in sample size between qualitative and quantitative data</li> </ul>	III, B

2	Drenkard (2005)	Quantitative, non-experimental	<ul style="list-style-type: none"> <li>- 2400 program eligible RNs</li> <li>Pre-intervention: 478 survey respondents</li> <li>Post-intervention: 310 survey respondents</li> <li>- Inova Health System</li> </ul>	<ul style="list-style-type: none"> <li>- advancement program positively influences job satisfaction</li> <li>- significantly higher retention rate of program participants</li> <li>- improved retention of specialty RNs</li> </ul>	<ul style="list-style-type: none"> <li>- retention rate of program vs. non-program participants</li> <li>- cost/benefit analysis of retention vs. turnover; higher cost of specialty RNs included</li> </ul>	<ul style="list-style-type: none"> <li>- low survey response rate</li> <li>- pre/post survey respondents may not be the same</li> </ul>	III, B
3	Goodrich (2011)	Mixed methods, non-experimental	<ul style="list-style-type: none"> <li>Quantitative:               <ul style="list-style-type: none"> <li>- 1,021 current and former (1 year prior to study) nurses participating in the clinical ladder program</li> <li>- 282 survey respondents</li> </ul> </li> <li>Qualitative:               <ul style="list-style-type: none"> <li>- 8 total personal interviews: 3-Clinical Nurse</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- Number of nurses seeking advancement improved 240% in first year of revised CLP</li> <li>- CLP aids in retention of nurses and provides external motivation for career advancement</li> </ul>	<ul style="list-style-type: none"> <li>- work, pay, autonomy, organizational policy, &amp; professional status satisfaction rates</li> <li>- rates of CLP participants</li> </ul>	<ul style="list-style-type: none"> <li>- Convenience sample of participants used</li> <li>- Researcher employed within organization; possible researcher bias</li> <li>- Less than 30% survey response rate may make generalization</li> </ul>	III, B

			<p>II, 2-Clinical Nurse III, 1-Clinical Nurse IV, 2-Unit Managers</p> <p>- Central Virginia regional not-for-profit healthcare system</p>			of findings difficult	
4	Korman (2010)	Quantitative, non-experimental	<p>- 174 nurses participating in the clinical ladder program</p> <p>- Ohio children's hospital</p>	<p>- CLP participants had high levels of professional satisfaction (83.5 out of 100)</p> <p>- CLP is a cost-effective method to retain nurses</p>	<p>- financial impact of CLP versus cost to replace a nurse</p> <p>- rates of satisfaction with CLP</p>	<p>- low response rates at lower-level and higher-level CLP participants</p> <p>- CLP consists of three different professional tracks</p>	III, B
5	Meucci (2019)	Quantitative, non-experimental	<p>Baseline survey: 455 survey recipients (22 Nurse Manager &amp; Assistant Nurse Manager; 433 beside RNs)</p>	<p>- CLP program communication is essential to its success</p> <p>- CLP improves employee engagement</p>	<p>- knowledge and understanding of CLP</p> <p>- CLP related to increasing professional practice</p>	<p>- Participation is mandatory</p> <p>- High personnel turnover between pre-practice</p>	III, B

			<ul style="list-style-type: none"> <li>- 133 survey respondents (22 NM &amp; ANM; 111 bedside RNs)</li> <li>Posttest survey: 425 survey recipients (14 NM &amp; ANM; 411 bedside RNs)</li> <li>- 168 survey respondents (12 NM &amp; ANM; 154 bedside RNs)</li> <li>- Single pediatric hospital in Connecticut</li> </ul>	<ul style="list-style-type: none"> <li>- CLP must be equitable among all bedside nurses to positively affect job satisfaction and retention</li> </ul>	<ul style="list-style-type: none"> <li>- CLP indicative of effective nursing practice</li> </ul>	<ul style="list-style-type: none"> <li>and posttest survey</li> <li>- Posttest survey responses incentive driven</li> </ul>	
6	Moore (2019)	Quantitative, systematic review	<ul style="list-style-type: none"> <li>- 498 records identified</li> <li>- 29 studies included</li> <li>- Cumulative Index for Nursing and Allied Health</li> </ul>	<ul style="list-style-type: none"> <li>- nurses who participate in CLP indicate greater job satisfaction and increased engagement resulting in</li> </ul>	<ul style="list-style-type: none"> <li>- studies evaluated organizational culture, job satisfaction, compensation, education and experience, and competence and</li> </ul>	<ul style="list-style-type: none"> <li>- Low number of studies</li> <li>- Numerous studies used internally developed survey instruments</li> </ul>	III, B

			Literature (CINAHL) and PubMed databases searched	decreased turnover	critical thinking related to CLP	- Few studies linked CLP to long-term outcomes	
7	Nelson (2010)	Quantitative, non-experimental	<ul style="list-style-type: none"> <li>- 128 CLP and non-CLP nurses</li> <li>- 68 survey respondents</li> <li>- Ambulatory care facility in Colorado</li> </ul>	<ul style="list-style-type: none"> <li>- Career ladder participants vs. non-participants believed CLP improved satisfaction, RN retention, and improved role development</li> </ul>	<ul style="list-style-type: none"> <li>- Survey subscales on awareness of and beliefs toward CLP, leadership, and quality improvement</li> </ul>	<ul style="list-style-type: none"> <li>- Study limited to single ambulatory clinic of a multistate ambulatory care system</li> <li>- Survey instrument untested for reliability and validity</li> <li>- Confusion and difficulty accessing electronic survey</li> </ul>	III, B
8	Riley (2009)	Quantitative, non-experimental	<ul style="list-style-type: none"> <li>- 1,850 survey participants</li> <li>- 757 survey respondents</li> </ul>	<ul style="list-style-type: none"> <li>- Recognition through CLP is important factor in satisfaction and engagement (3.73-3.96 on 5-</li> </ul>	<ul style="list-style-type: none"> <li>- Range of agree/disagree CLP enhances clinical autonomy, competence and</li> </ul>	<ul style="list-style-type: none"> <li>- Varied number of returned surveys between units; high rate of</li> </ul>	III, B

			<ul style="list-style-type: none"> <li>- large teaching hospital in southeastern U.S.</li> </ul>	<ul style="list-style-type: none"> <li>point Likert scale)</li> <li>- Lack of information and lack of mentors deters involvement in CLP (3.08-3.72)</li> </ul>	<ul style="list-style-type: none"> <li>performance; accountability; professional growth; &amp; rewards and recognition</li> </ul>	<ul style="list-style-type: none"> <li>return on smaller units</li> <li>- Researcher employed within organization; possible researcher bias</li> <li>- Limited to one location</li> </ul>	
9	Ward (2007)	Quantitative, non-experimental	<ul style="list-style-type: none"> <li>- 960 clinical advancement program (CAP) RNs</li> <li>- 176 survey respondents (18.3%)</li> <li>- Central Virginia regional not-for-profit healthcare system</li> </ul>	<ul style="list-style-type: none"> <li>- CAP increases responsibility and accountability</li> <li>- CAP provides sense of accomplishment and satisfaction</li> </ul>	<ul style="list-style-type: none"> <li>- work, pay, autonomy, organizational policy, &amp; professional status</li> <li>- rates of CAP participants</li> </ul>	<ul style="list-style-type: none"> <li>- Paper surveys sent through organization mail system; not able to track if actually received</li> <li>- Very low response rate</li> <li>- Survey responses were limited to 'yes/no'</li> </ul>	III, B

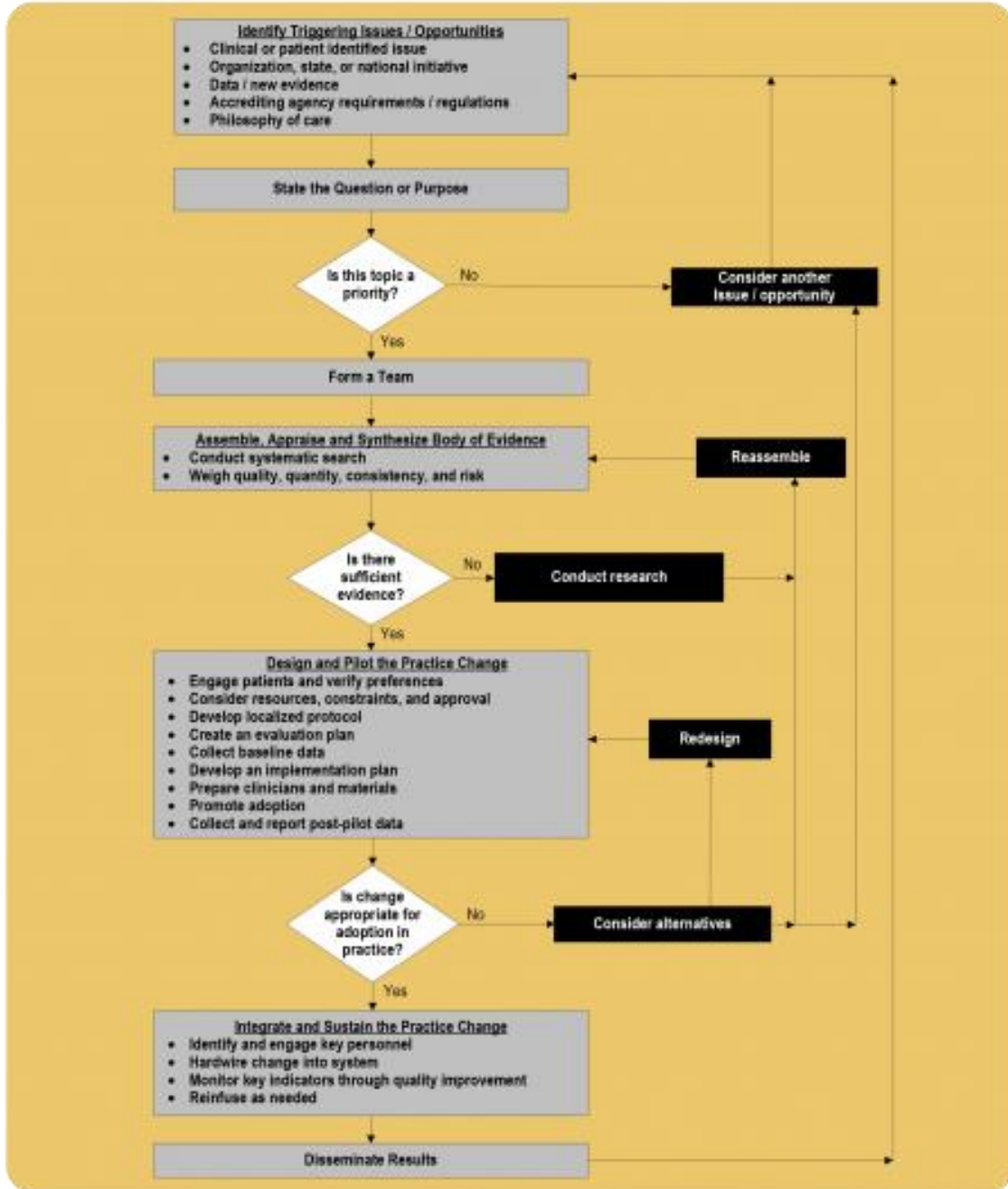


10	Bitanga (2013)	Journal article	N/A	<ul style="list-style-type: none"> <li>- explains 'novice to expert' nursing model as compared to CLP</li> <li>- discusses reasons why healthcare organizations employ CLPs</li> </ul>	N/A	- no use of statistical data	IV, B
11	OR Manager (2015)	Journal article	N/A	<ul style="list-style-type: none"> <li>- observes high levels of engagement among CLP participants</li> <li>- low turnover rate</li> </ul>	N/A	<ul style="list-style-type: none"> <li>- no reference to evidenced-based literature</li> <li>- observational article only</li> </ul>	IV, B

Appendix C

Evidence-Based Practice Model

**The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care**



## Appendix D

### Doctoral Project Email Announcement

Dear Clinical Ladder Program Participants:

My name is Vaughn Hansen, and I am a Doctor of Nursing Practice student, with a focus in Executive Leadership at The George Washington University. As part of this program, I am required to complete a final doctoral project. To complete this requirement, I am conducting a descriptive study of the recently revised clinical ladder program at the (study site organization). The outcome of this study is to understand your perceptions of the revised clinical ladder program and the results are intended to help guide future revisions of the program.

The study will be conducted over a 15-week period comprising of three questionnaire-type electronic surveys. Each survey consists of the same 15 Likert-type questions covering content areas including clinical competence and performance, professional growth, job satisfaction and engagement, and autonomy and decision making. Each survey should take between 5-10 minutes to complete.

Responses to the survey are completely anonymous; no personally identifiable information is being collected or recorded. Your participation in this study is entirely voluntary and opting not to take part will not impact your employment status at (study site organization) or performance evaluation. Please note, however, that completion and submission of any one of the three surveys implies consent to participate in this research study.

If you have any questions or concerns about this doctoral project and/or the descriptive study itself, I can be contacted at: [vaughnhansen@gwmail.gwu.edu](mailto:vaughnhansen@gwmail.gwu.edu) or (914) 522-9124. Thank you for your consideration to participate in this project. I look forward to the potential impact this study will have on your clinical ladder program.

## Appendix E

### Clinical Ladder Assessment Tool (modified)

Dear Participant:

This survey is designed to measure the effectiveness of clinical ladder programs. By completing this survey, you will provide information that may help determine the outcomes of your clinical ladder program. Your responses will be kept confidential. This study will be conducted over a 15-week period and consist of three surveys. Participation in this study is entirely voluntary, however, completion of any one of the three surveys implies consent to participate.

#### DEFINITION

Please consider the following definition when completing this questionnaire:

Clinical Ladder Program (CLP): a system which recognizes clinical expertise and which enables nurses to develop their potential and to be challenged by future learning possibilities, and which attracts and retains qualified nurses in clinical practice (Knox, 1980).

#### INSTRUCTIONS

Please complete the general information below. Complete your assessment of the clinical ladder program (CLP) by checking the response that most closely aligns with your perceptions of the clinical ladder program (CLP) in your organization.

#### GENERAL & DEMOGRAPHIC INFORMATION

Which clinical ladder program track do you participate?

Inpatient/Ambulatory                      Perioperative

What is your current level in the clinical ladder program?

Clinical Nurse II                      Clinical Nurse III

How many years of experience do you have as a Registered Nurse?

Less than 5 years  
5-10 years  
11-15 years  
16-20 years  
21-25 years  
26-30 years  
More than 30 years

What is your highest level of education:

Bachelor of Science, Nursing  
Master of Science, Nursing  
Master of Science, Non-Nursing  
Doctor of Nursing Practice (DNP)  
Doctorate, Non-Nursing  
Other \_\_\_\_\_

**The following demographic questions are for research purposes only and cannot be traced back to any individual completing this survey. Responses are completely anonymous, and answers are entirely voluntary.**

Which of the following best describes your age?

Under 24  
25-34  
35-44  
45-54  
55-64  
Over 65  
Prefer not to answer

Which of the following best describes your gender?

Female  
Male  
Non-Binary  
Transgender: Female-to-Male  
Transgender: Male to Female  
Other: \_\_\_\_\_  
Prefer not to answer

Which of the following best describes your race?

Asian  
Black or African American  
Hispanic or Latino  
Native American or Alaska Native  
Native Hawaiian or Pacific Islander  
White  
Other: \_\_\_\_\_  
Prefer not to answer

## Survey

**Clinical Competence**

1. To what extent does the current CLP integrate education, practice, and research within the program?

- A. Very small extent
- B. Small extent
- C. Moderate extent
- D. Large extent
- E. Very large extent

2. To what extent does the current CLP build upon skills and knowledge gained as part of the program?

- A. Very small extent
- B. Small extent
- C. Moderate extent
- D. Large extent
- E. Very large extent

**Accountability**

3. To what extent were clinical ladder expectations reviewed so that you clearly understand what is expected of you?

- A. Very small extent
- B. Small extent
- C. Moderate extent
- D. Large extent
- E. Very large extent

4. To what extent is there a resource person in the Department of Professional Development available to support you in your advanced clinical ladder role?

- A. Very small extent
- B. Small extent
- C. Moderate extent
- D. Large extent
- E. Very large extent

**Clinical Performance**

5. To what extent do the job expectations for your respective level in the clinical ladder clearly and accurately describe your role?

- A. Very small extent
- B. Small extent
- C. Moderate extent
- D. Large extent
- E. Very large extent

6. To what extent does your job expectations fit into the overall standards of nursing practice?
- A. Very small extent
  - B. Small extent
  - C. Moderate extent
  - D. Large extent
  - E. Very large extent

### **Professional Growth**

7. To what extent are there opportunities to acquire the knowledge and skills necessary to advance in the CLP?
- A. Very small extent
  - B. Small extent
  - C. Moderate extent
  - D. Large extent
  - E. Very large extent

8. To what extent does the CLP provide adequate opportunity for advancement while remaining in clinical practice?
- A. Very small extent
  - B. Small extent
  - C. Moderate extent
  - D. Large extent
  - E. Very large extent

### **Rewards and Benefits**

9. To what extent are you satisfied with the rewards and benefits associated with advancement in the clinical ladder?
- A. Very small extent
  - B. Small extent
  - C. Moderate extent
  - D. Large extent
  - E. Very large extent
10. To what extent is advancement in the CLP accompanied by public and formal recognition within HSS?
- A. Very small extent
  - B. Small extent
  - C. Moderate extent
  - D. Large extent
  - E. Very large extent

### **Job Satisfaction & Engagement**

11. To what extent does your participation in the CLP provide in the sense of accomplishment and professional satisfaction with your work?

- A. Very small extent
- B. Small extent
- C. Moderate extent
- D. Large extent
- E. Very large extent

12. To what extent has participation in the CLP increased your role engagement through the various required activities (i.e. – councils, CEUs, certification, etc.)

- A. Very small extent
- B. Small extent
- C. Moderate extent
- D. Large extent
- E. Very large extent

13. To what extent is your participation in the CLP a major factor in continuing your employment at HSS?

- A. Very small extent
- B. Small extent
- C. Moderate extent
- D. Large extent
- E. Very large extent

### **Autonomy and Decision Making**

14. To what extent does participation in the CLP increase your responsibility and decision making as defined by the criteria for each level?

- A. Very small extent
- B. Small extent
- C. Moderate extent
- D. Large extent
- E. Very large extent

15. To what extent does participation in the CLP encourage you to be a role model for fellow nursing staff?

- A. Very small extent
- B. Small extent
- C. Moderate extent
- D. Large extent
- E. Very large extent



**Appendix F**

**Project Timeline**

DNP Project Timeline		2022					2023									
Activity	Length of Time	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Attain DNP project approval from primary and secondary advisors	2 weeks	█														
Attain study site IRB approval (concurrent)	14 weeks		█	█	█	█										
Attain university IRB approval (concurrent)	4 weeks			█	█											
Announce project to study participants	1 day															
Send first survey/receive responses	3 weeks							█								
Send second survey/receive responses	3 weeks								█							
Send third survey/receive responses	3 weeks									█						



## Appendix G

Table 1. Characteristics of Program Participants

	Survey 1		Survey 2		Survey 3		Grand Total	
	Frequency	Valid Percent	Frequency	Valid Percent	Frequency	Valid Percent	Frequency	Valid Percent
<b>Track</b>								
Ambulatory	7	12.7%	4	8.7%	7	13.0%	18	11.6%
Inpatient	15	27.3%	15	32.6%	17	31.5%	47	30.3%
PACU	18	32.7%	13	28.3%	17	31.5%	48	31.0%
Perioperative	15	27.3%	14	30.4%	13	24.1%	42	27.1%
Total (missing)	55 (1)		46 (1)		52 (2)		155 (4)	
<b>CLP Level</b>								
Clinical Nurse II	34	60.7%	25	56.8%	31	56.4%	90	58.1%
Clinical Nurse III	22	39.3%	19	43.2%	24	43.6%	60	41.9%
Total (missing)	56 (0)		44 (3)		55 (1)		155 (4)	
<b>Years of Experience</b>								
5–10	28	50.0%	19	43.2%	18	33.3%	65	42.8%
11–15	10	17.9%	11	26.2%	17	31.5%	38	25.0%
16–20	5	8.9%	3	7.1%	4	7.4%	12	7.9%
21–25	3	5.4%	1	2.4%	2	3.7%	6	3.9%
26–30	4	7.1%	2	4.8%	7	13.0%	13	8.6%
More than 30	6	10.7%	6	14.3%	6	11.1%	18	11.8%
Total (missing)	56 (0)		42 (5)		54 (2)		152 (7)	
<b>Highest Level of Education</b>								
BS, Nursing	40	71.4	32	69.6%	42	79.2%	114	73.5%
MS, Nursing	12	21.4%	10	21.7%	9	17.0%	31	20.0%
MS, Non-Nursing	4	7.1%	4	8.7%	2	3.8%	10	6.5%
Doctor of Nursing Practice (DNP)	0	0%	0	0%	0	0%	0	0%

Doctorate, Non-Nursing	0	0%	0	0%	0	0%	0	0%
Other	0	0%	0	0%	0	0%	0	0%
Total (missing)	56		46 (1)		53 (3)		155 (4)	
<b>Age</b>								
25–34	19	34.5%	11	24.4%	11	20.4%	41	26.6%
35–44	15	27.3%	13	27.7%	18	33.3%	46	29.9%
45–54	10	18.2%	9	19.1%	12	22.2%	31	20.1%
55–64	7	12.7%	7	14.9%	10	18.5%	24	15.6%
Over 65	2	3.6%	0	0%	0	0%	2	1.3%
Prefer not to answer	2	3.6%	5	10.6%	3	5.6%	10	6.5%
Total (missing)	55 (1)		45 (2)		54 (2)		154 (5)	
<b>Gender</b>								
Female	45	81.8%	37	80.4%	43	79.6%	125	80.7%
Male	7	12.7%	4	8.7%	7	13.0%	18	11.6%
Non-Binary	0	0%	0	0%	0	0%	0	0%
Transgender: Female-to-Male	0	0%	0	0%	0	0%	0	0%
Transgender: Male-to-Female	0	0%	0	0%	0	0%	0	0%
Other	0	0%	0	0%	0	0%	0	0%
Prefer not to answer	3	5.5%	5	10.9%	4	7.4%	12	7.7%
Total (missing)	55 (1)		46 (1)		54 (2)		155 (4)	
<b>Race</b>								
Asian	8	14.5%	6	13.3%	7	13.5%	21	13.8%
Black or African American	2	3.6%	3	6.7%	2	3.8%	7	4.6%
Hispanic or Latino	3	5.5%	2	4.4%	4	7.7%	9	5.9%
Native American or Alaska Native	1	1.8%	0	0%	1	1.9%	2	1.3%
Native Hawaiian or Pacific Islander	0	0%	1	2.2%	2	3.8%	3	2.0%

White	29	52.7%	21	46.7%	25	48.1%	75	49.3%
Other	0	0%	0	0%	0	0%	0	0%
Prefer not to answer	12	21.8%	12	26.7%	11	21.2%	35	23.0%
Total (missing)	55 (1)		45 (2)		52 (4)		152 (7)	

## Appendix H

Table 2. Mean scores for individual items and subscores per survey wave

	Survey 1		Survey 2		Survey 3		Grand Total	
	Valid N	Mean (SD)	Valid N	Mean (SD)	Valid N	Mean (SD)	Valid N	Mean (SD)
<b>Clinical Competence</b>	56	2.87 (0.85)	47	2.95 (0.89)	56	2.86 (0.88)	159	2.89 (0.87)
1. To what extent does the current CLP integrate education, practice, and research within the program?	55	2.84 (0.81)	47	2.91 (0.90)	56	2.82 (0.86)	158	2.85 (0.85)
2. To what extent does the current CLP build upon skills and knowledge gained as part of the program (i.e. – build upon skills/knowledge gained re. leadership, coaching, preceptorship, etc.)?	56	2.89 (0.98)	46	2.98 (0.98)	56	2.89 (0.95)	158	2.92 (0.96)
<b>Accountability</b>	56	3.26 (0.84)	47	3.39 (0.79)	56	3.24 (0.86)	159	3.29 (0.83)
3. To what extent are you aware of what is expected of you at your current level within the CLP?	56	3.59 (0.89)	47	3.74 (0.85)	56	3.66 (0.92)	159	3.66 (0.88)
4. To what extent is there a resource person in the Office of Professional Development available	56	2.93 (1.13)	47	3.04 (1.18)	56	2.82 (1.11)	159	2.92 (1.13)

to support you in your advanced clinical ladder role and professional goals?								
<b>Clinical Performance</b>	56	3.51 (0.71)	47	3.59 (0.82)	56	3.58 (0.71)	159	3.56 (0.74)
5. To what extent do the job expectations for your respective level in the clinical ladder clearly and accurately describe your role?	55	3.29 (0.94)	47	3.34 (0.98)	55	3.42 (0.83)	157	3.35 (0.91)
6. To what extent does your job expectations fit into the overall standards of nursing practice?	56	3.71 (0.65)	45	3.89 (0.78)	55	3.76 (0.77)	156	3.78 (0.73)
<b>Professional Growth</b>	56	2.85 (0.91)	47	2.73 (0.93)	56	2.85 (0.98)	159	2.81 (0.94)
7. To what extent are there opportunities to acquire the knowledge and skills necessary to advance in the CLP?	56	2.88 (1.03)	47	2.85 (1.04)	55	2.89 (1.01)	158	2.87 (1.02)
8. To what extent does the CLP provide adequate opportunity for advancement while remaining in clinical practice?	55	2.85 (1.01)	47	2.62 (1.03)	56	2.82 (1.05)	158	2.77 (1.03)
<b>Rewards &amp; Benefits</b>	56	2.43 (0.95)	47	2.54 (0.81)	56	2.54 (1.08)	159	2.50 (0.96)
9. To what extent are you satisfied with the rewards and benefits associated with	55	2.51 (1.05)	47	2.62 (0.87)	56	2.55 (1.17)	158	2.56 (1.04)

advancement in the clinical ladder?								
10. To what extent is advancement in the CLP accompanied by public and formal recognition within [the organization]?	56	2.38 (0.96)	47	2.47 (0.91)	55	2.51 (1.10)	158	2.45 (0.99)
<b>Job Satisfaction &amp; Engagement</b>	56	3.01 (0.79)	47	3.04 (0.88)	56	3.07 (0.93)	159	3.04 (0.86)
11. To what extent does your participation in the CLP provide in the sense of accomplishment and professional satisfaction with your work?	56	2.96 (0.91)	47	2.81 (1.01)	56	2.95 (1.02)	159	2.91 (0.98)
12. To what extent has participation in the CLP increased your role engagement through the various required activities (i.e. – councils, CEUs, certification, etc.)?	55	3.24 (0.88)	47	3.28 (0.95)	56	3.29 (0.93)	158	3.27 (0.91)
13. To what extent is your participation in the CLP a major factor in continuing your employment at [the organization]?	56	2.86 (1.09)	47	3.02 (1.15)	56	2.98 (1.21)	159	2.95 (1.15)



<b>Autonomy and Decision Making</b>	56	3.19 (0.89)	47	3.34 (0.90)	56	3.24 (1.00)	159	3.25 (0.93)
14. To what extent does participation in the CLP increase your responsibility and decision making as defined by the criteria for each level?	56	2.96 (0.93)	47	2.91 (1.02)	56	3.02 (1.12)	159	2.97 (1.02)
15. To what extent does participation in the CLP encourage you to be a role model for fellow nursing staff?	56	3.41 (1.02)	47	3.77 (1.03)	56	3.46 (1.04)	159	3.53 (1.04)
<b>Total</b>	56	3.02 (0.67)	47	3.08 (0.70)	56	3.05 (0.78)	159	3.05 (0.72)

## Appendix I

Table 3. Pairwise comparisons for clinical level per subscore across all survey waves

<b>Comparison</b>	<b>Subscale</b>	<b>Estimated mean difference (95% CI)</b>	<b>p-value</b>
Clinical Nurse II – Clinical Nurse III			
	Clinical Competence	-0.28 (-0.56, -0.01)	.046
	Accountability	-0.26 (-0.53, 0.01)	.058
	Clinical Performance	-0.23 (-0.47, 0.02)	.065
	Professional Growth	-0.30 (-0.61, 0.00)	.052
	Rewards & Benefits	-0.40 (-0.71, -0.10)	.010
	Job Satisfaction & Engagement	-0.64 (-0.92, -0.35)	<.001
	Autonomy & Decision Making	-0.52 (-0.79, -0.25)	<.001