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Barriers Impacting LPNs' Academic Progression

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University of Washington Tacoma

2021

Supervising committee:

Dr. Sharon Fought, chair

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Program Authorized to Offer Degree:

Education

Acknowledgments

I would like to express my heartfelt gratitude to my chair, Dr. Sharon Fought, for her encouragement, continuous feedback, patience, and guidance through this process. Her kindness, vast knowledge, and leading by example are only a few of the qualities that make her such an effective nursing leadership model. I will work to emulate her example in my work going forward as a nurse leader.

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collective cheers and encouragement to keep going were always in the back of my mind when I didn't think I could. I am so privileged to have you in my life.

Abstract

Barriers Impacting LPNs' Academic Progression

M. Dianne Nauer

Chair of the Supervisory Committee:

Sharon Fought, Ph.D., RN

Nursing and Healthcare Leadership

Licensed Practical Nurses (LPNs) desiring to academically progress in the profession of nursing face specific barriers as reported in the literature. LPNs are licensed nurses, but when trying to advance to registered nurse (RN) or earn a Bachelor of Science in Nursing (BSN), find that their experiences as nurses is not credited academically. The barriers reported by Washington State LPNs included the need to continue working, making traditional full-time class schedules a significant or extreme barrier. Cost and lack of local programs for LPN academic progression were the rated as the most significant barriers. In addition, competing with individuals with no healthcare experience for limited spaces available for academic progression by using grades from pre-requisite courses was viewed as an unfair barrier. Frustration at having to retake courses related to expiration dates, the entry requirement of expensive standardized tests, and different requirements across nursing programs were identified by LPNs as possible reasons to leave the field of nursing for other unrelated fields. The healthcare workforce is facing a potential shortage of RNs between 13.6 and 23.7 percent by 2031 (Skillman et al., 2011). This estimated shortfall makes it imperative that workforce and nursing education programs collaborate to address the barriers LPNs report as preventing their academic progression.

Keywords: LPN, academic progression, adult education, life-long learning, LPN-BSN, barriers

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DEDICATION

This work is dedicated in memoriam to my mom, Mickie Shoemaker, who never had formal education past the eighth grade but always supported and celebrated my academic accomplishments with as much as pride as if she had done them herself. As the only college graduate in my family of origin, I am grateful for her focus on academic achievement early in my life which set the foundation for my current achievements. I know that you are proud on your cloud even though you didn't get to be here for the completion of this academic journey.

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Chapter One: Problem Statement

The purpose of this chapter is to describe Washington State Licensed Practical Nurses' (LPN) reports of barriers affecting their nursing academic progression. As a group, LPNs face unique challenges when returning to school. The research suggests that these students often must continue to work during their academic progression, have family care concerns, and may have difficulty writing at the expected level for college level students (Bednarz et al., 2010; Porter-Wenzlaff & Froman, 2008). As adult learners with nursing experience, they also often enter the registered nurse (RN) education level believing they already know everything they need to know. Adult learners do not have time for irrelevant information that cannot be put to practical use (Knowles et al., 2015), so there is a learning curve as LPNs recognize what they do not know.

The topic of academic progression is of significance in Washington State. For example, there are models for LPN-RN and RN-BSN progression. To determine current Washington State LPN interest in academic progression, a nineteen-question survey (Appendix A) was developed by the LPN Academic Progression workgroup. All licensed LPNs (n=8,032) were invited to respond to a survey to assess interest in advancing their education and what barriers, if any, they currently encountered or anticipated.

There is little current literature on barriers for LPNs desiring to advance their nursing education. The barriers reported in the literature focused on increasing diversity in RN programs (Birkhead et al., 2016; Porter-Wenzlaff & Froman, 2008; Hunn et al., 2015; Villarruel et al., 2015). A few, small qualitative descriptive studies (n=10, Melrose & Gordon, 2011; n=10, Cubit & Lopez, 2011) of LPN-BSN program structures found that LPNs admitted to advanced placement in BSN programs often face challenges different than generic prelicensure students, those without previous nursing education. These studies did not discuss barriers to gain admission to a nursing academic progression program.

Describing LPN-reported barriers to academic progression is important to the nursing profession in Washington State. Currently, there is a shortage of RNs (Stubbs & Skillman, 2019b), with predictions for increased shortages when 30.2% of the current nurse workforce, age 55 or older, reach retirement age. In addition, there are equity and diversity concerns that the majority (79.5%) of RNs licensed in Washington State are white women (Stubbs & Skillman, 2019b). A potential under-utilized resource, LPNs in the state, could increase the number of available RNs if there were more pathways and fewer barriers to provide seamless articulation into RN programs.

When considering academic progression for LPNs, the goal should include access to BSN education. The literature indicates that RNs educated to BSN level result in better patient outcomes (Aiken et al., 2003; Aiken, 2014; American Association of Colleges of Nursing, 2019). Aiken's work found that units staffed with ≥ 60 percent BSN staff had better patient outcomes.

Nurses deliver the majority of healthcare, and the literature is clear that a system of diverse healthcare workers improves health outcomes for underserved and marginalized communities (Giddings, 2005; Grumbach & Mendoza, 2008; Phillips, 2014). Yet, there have only been modest gains in the percentage of underrepresented students admitted to RN programs producing more nurses of color (Health Resources and Services Administration, 2017). LPNs currently make up the most diverse group of nurses both nationally and in Washington State (Smiley et al., 2017; Stubbs & Skillman, 2019a). By describing barriers reported by LPNs desiring to advance their education and earn a BSN, there is potential to address both the RN shortage and improve the nursing workforce diversity. Describing reported barriers to LPN academic progression could provide information to more fully describe barriers to such advancement. This information can, in turn, assist with planning next steps for removing such barriers.

In addition, the Institute of Medicine (IOM) report of 2011 recommended that 80 percent of nurses should be RNs educated to the BSN level by 2020. At the national level, only 59 percent of licensed RNs are BSN educated (National Council of State Boards of Nursing, 2019). In 2007, Washington State reported 51.4% of RNs in the workforce were educated at the BSN or higher level. Currently, 58.9% of RNs practicing in Washington State have a BSN or higher degree, which remains well below the IOM recommendation of 80 percent.

There is interest in LPN academic progression. Barriers reportedly prevent this progression, but there is little current data about those barriers. This is important to nursing because there is a need to develop a larger workforce that is more diverse. Therefore, the purpose of this study is to analyze existing qualitative and quantitative data and related reports:

- 1) to describe Washington State LPNs' reports of barriers to academic progression in nursing, from LPN to BSN.
- 2) to describe the demographics of those LPNs reporting barriers.

Chapter Two: Literature Review

The purpose of this chapter is to summarize literature that serves as the basis for the proposed study regarding academic progression for LPNs. Four relevant concepts were identified in the literature reviewed. The concepts are adult learners, nursing education, LPN, and academic progression.

Concept One: Adult Learners

Adult learners, sometimes referred to as non-traditional learners, have been identified as students returning to school after two to four-year absence from formal education (Ross-Gordon, 2011; Kapur, 2015; Kapur, 2019). Adult learners are older than twenty-four years, have family responsibilities and typically continue working while attending school. Adult learners have life experience; most started a career or served in the military (Ross-Gordon, 2011; Kapur, 2015; Kapur, 2019), which influences their priorities when balancing education and other roles and responsibilities. Adult learners return to education to augment career prospects and knowledge, and generate increased income or promote financial security for their families (Kapur, 2019).

In 1968, Knowles recognized the adult learner as unique in their learning needs (Knowles et al., 2015). Borrowing from the fields of education, developmental psychology, social psychology and philosophy, Knowles et al. (2015) proposed a theory of adult learning known as andragogy. Traditional learning had been based on a pedagogy model, where the teacher is fully responsible for the content and required learning. Andragogy, in contrast, assumed the learner is actively engaged in the process of learning by determining how the content is relevant to them. Knowles et al. (2015) proposed the andragogical model is more suited to the unique learning needs of adults.

The andragogical model of learning is based on several assumptions including that adults are most interested in practical application of learned or new content with direct relevance to

their jobs or lives. As a result of this interest in practical application, the adult learner wants to know why they need to know something to fully engage in learning new content. Andragogy also assumes that self-directed learning is most effective for adult learners. Adult learners resent and resist situations where they feel “others are imposing their will upon them” (Knowles et al., 2015, p. 44). When possible, this requires the adult learner to be involved in the planning and evaluation of their instruction. Andragogical learning theory values the adult learner’s experience, including mistakes, as valuable to learning. Andragogical theory assumes internal motivation is stronger than external motivators. As a result, many adult learners become less concerned with grades and more concerned about accomplishing goals they set for themselves. (Knowles et al., 2015; Kapur, 2019; Ross-Gordon, 2011).

Knowles et al. (2015) suggested the application of andragogy requires academic programs to prepare the adult learner for self-directed learning. Preparation for self-directed learning is particularly important when previous education experiences were likely based on pedagogy (Grow, 1991). The andragogy model suggests the opportunity for mutual planning, including determining the learning needs of the adult learner. The mutual planning of the course or class learning objectives would allow adult learner input, combined with the faculty’s subject expertise, to ensure adult learner needs will be met. This approach could be useful in original design of a program/course or the use of course feedback to revise an existing course. Melrose et al.’s (2012) opinion paper reminded nursing educators of the importance of encouraging students to self-identify learning goals. If a faculty is using adult learning theory, cognitive theorists stress the importance of faculty establishing a climate for learning that includes clearly defined learning outcomes, opportunity for honest feedback, and tolerance for mistakes as opportunities for learning (Knowles et al., 2015, p.55). An atmosphere of openness includes adult learners feeling safe in asking questions and feeling accepted and valued by faculty. An open atmosphere

has been reported as one of the most important factors in a learner's perseverance to accomplish their academic goal (Blair, 2010). This climate of learning is necessary to support adult learners as they manage the anxiety that active learning can elicit (Knowles et al., 2015; Kapur, 2019).

Adult learners returning for career-advancing credentials are drawn to programs that recognize life experience and offer flexible scheduling options and reasonable cost (Bednarz et al., 2010). LPNs returning to school to become RNs fit the adult learner profile. The LPN pursuing academic progression is older, has family responsibilities, and often must continue to work (Cook et al., 2010; Goodwin-Esola & Gallagher-Ford, 2009; Bednarz et al., 2010).

Concept Two: Nursing Education

The nursing education model has been built on a strong foundation of nursing as a professional discipline. Formal learning in the science of nursing and developing the individual nursing professional to elevate the profession of nursing are among the goals of nursing education. The professional practice of nursing utilizes science, the social sciences, and the art of caring to provide holistic care to the individuals and populations who need physical, emotional and spiritual care. In Washington State, nursing education programs are only offered at accredited colleges and universities, as required by the Washington Administrative Code (WAC 246-840-511) effective as of September 2016.

The profession of nursing has three educational levels that prepare graduates to take a licensing exam for entry into practice (Raines & Taglaireni, 2008). The three education levels for practice are: practical nurse (PN), associate degree in nursing (ADN), and baccalaureate degree in nursing (BSN). Completion of an approved or accredited academic nursing education program prepares learners to pass a national licensing exam (NCLEX). Once licensed, the PNs are licensed as LPN; the ADN and BSN as RNs.

In Washington State, practical nursing education consists of one year of college-level science, math and social science pre-requisites followed by up to four quarters of nursing courses offered at community or technical colleges per WAC 246-840-539 (2017). Associate degree nursing education programs require one year of college-level science, math and social science course pre-requisites followed by up to six quarters of additional nursing courses at community colleges per WAC 246-840-541 (2017). Baccalaureate nursing education programs include science, math, social science and humanities courses in the first two years of general education followed by two years of nursing courses offered at universities. In Washington State, selected community colleges can offer an additional year and award a baccalaureate in nursing.

Work in 2012 by the Council of Nursing Educators of Washington State (CNEWS), consisting of all deans and directors of nursing programs in the state, produced agreement among all programs to require the same anatomy and physiology science pre-requisites. This agreement around pre-requisites began aligning each level of nursing education for academic progression to the next level in Washington State.

Life-long Learning

The profession of nursing has evolved over recent decades with nurses caring for more complex patients in an ever-changing healthcare environment (Cook et al., 2010). Evidence-based practice is the cornerstone for many changes in healthcare procedures and standards of care. Life-long learning is necessary for problem-solving and critical thinking (Davis et al., 2014). The idea that basic nursing education will prepare a nurse for a lifetime of practice is not reasonable (Altman, 2011). To remain current with evidence-based practice, more complex problem-solving, and critical thinking, nurses must engage in life-long learning.

The importance of life-long learning in nursing was identified in the Institute of Medicine (IOM) 2011 report as an expectation for the profession of nursing. The IOM report

recommended that nursing education programs should “serve as a platform for continued learning and include opportunities for a seamless transition to higher degree programs” (p. 163).

When LPNs want to advance their education and role, there are options including professional development, continuing education, and skill-specific certifications. One example of support for life-long learning is the Washington State requirement of thirty hours of continuing education each year for all licensed nurses. Another option for the LPN’s life-long learning is earning licensure as an RN through academic progression.

Concept Three: Licensed Practical Nurses

Compared to RNs or Advanced Registered Nurse Practitioners (ARNP), LPNs represent the most diverse population of nurses. According to the United States Census Bureau (USCB, 2019), in Washington State 23.6% of the population identify as non-white. In Washington State, 26.8% of LPNs identify as non-white compared (Stubbs & Skillman, 2019a). to 20.5% of RNs (Stubbs & Skillman, 2019b). The IOM report (2011) stated that correcting the underrepresentation of racial and ethnic groups and men in the workforce would require a more diverse nursing student population.

According to Sullivan (2004), there are greater health disparities when the nation’s health professionals have not kept pace with the changing demographics. A diverse and highly educated nursing workforce is essential to improve access to quality healthcare (Hawkins et al., 2018). Academic progression of LPNs offers one option to increase diversity in the nursing profession.

Licensed Practical Nurse Scope of Practice

The practical nurse education prepares the graduate to meet the LPN scope of practice. The scope for the LPN vs RN license is determined by the Nurse Practice Act and put into law by Revised Code of Washington (RCW) and Washington Administrative Codes (WACs). The

Nursing Care Quality Assurance Commission (NCQAC) approves nursing education programs in accordance with the education WACs. The NCQAC released an advisory opinion statement in 2019 summarizing the distinction between LPN and RN scope of practice, based on RCW 18.79 Nursing Care and WACs 246-840-700, WAC 246-840-705 Practical and Registered Nursing. The NCQAC advisory opinion summarized the LPN scope of practice in the nursing process as limited and focused, carrying out nursing care interdependently and dependently when carrying out medical regimens (Dept of Health: NCQAC, 2019). The RN can delegate to LPNs those nursing tasks within the delegate's scope of practice and training (Dept of Health: NCQAC, 2019).

Nursing Process

The nursing process is a framework for addressing patient problems or potential problems. What follows is a consistent effort to stabilize or improve the patient's status by developing a care plan. The nursing process involves assessing the patient by collecting and interpreting data and diagnosing the patient's response to illness or injury, for example. This process uses recognized language for nursing diagnoses from the North American Nursing Diagnosis Association (NANDA, 2021). The process requires creating measurable patient outcomes and planning interventions to restore as much function as possible. The final steps in the nursing process include evaluating the implementation of the plan and revising as needed. The LPN role in the nursing process is limited to contributing assessment data to the RN's assessment and carrying out the interventions devised by the RN. The RN who develops the care plan in consultation with the LPN as part of the healthcare team.

Concept Four: Academic Progression

Academic progression in nursing is considered movement from one educational level of nursing to another, which may include an additional license, as in LPN to RN or RN to ARNP.

According to the Academic Progression in Nursing (APIN) group, “The nursing profession has been mired in controversy over nursing education for more than fifty years.” (APIN, 2021). The heart of the controversy stems from differing opinions on what the entry level into professional nursing should be. One potential solution to the controversy is to provide seamless articulation from one level of nursing education to the next, resulting in the diverse and highly educated nursing workforce that is essential to improve access to quality healthcare (Hawkins et al., 2015)

One model for seamless academic progression is an academic pathway. In nursing, the pathway model uses standardized educational requirements to lead to a certificate or degree, which qualifies the graduate to take their licensing exam. Should the graduate desire to continue to a higher level of education in the same field, the first degree serves as foundational knowledge for the next educational level, such as certified nursing assistants (NA-C) entering a PN program or an LPN entering an RN program.

In an effort to support nursing students who wish to progress in their education, CNEWS and NCQAC members in Washington State have worked to consolidate the academic requirements for selected levels of nursing education. Working with the State Board of Community and Technical Colleges (SBCTC), NCQAC staff and CNEWS members developed and got approval for a direct transfer-major ready pathway (DTA/MRP) between ADN programs and BSN programs in Washington State. The DTA/MRP has provided a seamless academic progression pathway, at participating universities, for ADN-BSN education and could be used as a model for LPN-RN progression, to either ADN or BSN education levels.

Licensed Practical Nurse Role Transition

The literature on academic progression for LPN-RN often focused on role transition of the LPN to RN rather than on curricular elements and requirements (Miller & Leadingham, 2010; Gordon & Melrose, 2011; Cubit & Lopez, 2011; Birkhead et al., 2016; Jones et al., 2018).

Among role transition topics in the literature, the LPN must change their nursing care focus from tasks and reporting findings to RNs and Healthcare providers to utilizing critical thinking.

Critical thinking involves the ability to interpret, analyze, evaluate, infer and explain one's thinking including how one arrives at one's judgment (Facione, 2015). The descriptive study by Porter-Wenzlaff and Froman (2008) reported that LPNs in accelerated programs often believed "they were already functioning as RNs and had little to learn beyond RN-specific tasks." The LPNs in accelerated programs reported they were essentially getting the credential to support their current practice (p. 233). Melrose and Gordon (2011) reported in their qualitative study (n=10) that after completion of their BSN degree, participants in the accelerated LPN-BSN program recognized a higher level of confidence and a vision of the nursing profession due to upgrading their credentials.

The different skills needed for the nurse practicing at the LPN level vs the RN level are not easily identified by the LPN prior to completing BSN education. The skill sets of the LPN and RN often overlap, making it challenging to see the difference between the two roles (Gordon & Melrose, 2011). Academic progression for the LPN offers the opportunity to advance the understanding of the transition in role to the RN level.

Barriers to Academic Progression

Wallen et al. (2017) surveyed 90 LPNs in central Massachusetts to determine interest in advancing their education. For LPNs interested in academic progression, the barriers identified were cost, lack of financial resources, requiring repetition of nursing courses, lack of credit for LPN courses and not acknowledging the LPN's nursing knowledge. Hawkins et al. (2018) found that nurses returning to complete BSN education, RN and LPN, reported a lack of assistance with academic advising and enrollment/admission procedures were seen as barriers.

Some literature examined academic progression barriers specific to non-white students (Bednarz et al., 2010; Porter-Wenzlaff & Froman, 2008) which included poor high school preparation, lack of financial resources, and lack of diversity in nursing faculty. Tutoring and mentoring for students who show deficits in writing skills, math competencies and/or role transitions was suggested to support success (Bednarz et al., 2010; Porter-Wenzlaff & Froman, 2008).

The literature describing implementation of LPN-BSN programs varied in approaches and outcomes (Porter-Wenzlaff & Froman, 2008; Wallen et al., 2017; Melrose & Gordon, 2011; Suttle & McMillian, 2009). The LPN-BSN programs did, however, identify common challenges for the LPN that differed from the generic prelicensure students with no previous nursing experience. The LPNs experienced challenges around writing deficits, work-family responsibilities, and difficulty making the transition to critical thinking skills from a task focus (Melrose & Gordon, 2011; Melrose et al., 2012; Porter-Wenzlaff & Froman, 2008).

Summary

Adult learners are students who have not been in higher education for at least two years, are 24 years or older, are financially independent, and often have family and work responsibilities while attending school. The LPN pursuing academic progression is older, has family responsibilities and may need to continue to work while attending school. In addition, LPNs planning to progress academically in their profession are seeking to augment career prospects and knowledge, generate increased income or promote the well-being of their families. (Kapur, 2019).

LPNs returning to school to become RNs have identified the need for financial assistance, flexible schedules to accommodate their family-work responsibilities and awarded credits for the nursing knowledge gained as an LPN (Wallen et al., 2017). LPNs have demonstrated nursing

knowledge at the practical nurse level by passing their licensing exam. Pathways for academic progression for LPNs are very useful; however, there are obstacles to progression. While some barriers have been identified as likely to interfere in the pursuit of academic progression, what is not known is what barriers are most likely to prevent academic progression. In addition, there is a need to know, for selected geographic regions, how frequently these barriers are reported by LPNs.

Chapter Three: Methods

The purpose of this chapter is to describe the sample and population, sampling method, source of existing data, and plan for analysis. The study used quantitative and qualitative methods for analysis. The chapter will also outline methods used conducting the study. The chapter will conclude with the research questions.

The study used existing quantitative and qualitative data, collected during a survey of all licensed practical nurses (LPNs) in Washington State in fall 2019. Secondary analysis of qualitative data was used to explore new questions or analyze the data in ways not part of primary analysis (Szabo & Strang, 1997). The practice of secondary analysis requires data sharing that allows for new knowledge without the cost of administration and implementation of additional data collection (Perrino et al., 2013).

Population and Sample

The study used existing data collected during a study using a convenience sample of all licensed LPNs in Washington State in the Department of Health (DOH) database. The survey was emailed to the 8,032 LPNs in the database; two reminder emails were sent, resulting in 2,057 responses (26% response rate). The 2057 responses were used in this study. All incomplete demographic data responses were eliminated, resulting in a sample size of 1661. To answer the research questions comparing urban and rural groups, all survey respondents who did not live in Washington State were eliminated, resulting in a final sample size of 1477.

Protection of Human Subjects

The quantitative data from 1661 respondents were stripped of personal information and had no personally identifiable data. Qualitative data were screened to assure no identifying comments were contained within the data. Permission was granted by the LPN Academic Progression Workgroup to use the data (see Appendix B). The study proposal was submitted to

the University of Washington Review Board for review and approval. On June 16, 2021, it was determined that the submission did not involve "human subjects" as defined by federal regulations and thus did not require exempt status or IRB review (See Appendix C).

Methods

The existing data used for this study consisted of responses to a nineteen-question survey developed by a masters-prepared nurse director of an LPN program and a doctoral-prepared nurse educator. The survey was constructed on Survey Monkey.

A workgroup was established to determine LPNs' interests in academic progression. Members included 36 masters and doctoral-prepared nurses representing LPN, ADN and BSN programs and staff from State Board of Community and Technical Colleges and the nursing commission. The workgroup was also interested in LPNs' reports of barriers that may influence their interest in or ability to progress academically in their nursing education.

Survey for Primary Study

A nineteen-question survey (Appendix A) was constructed to determine current Washington LPNs' interests in academic progression. After a literature review of LPN-BSN programs, the survey questions were developed in Survey Monkey and approved by the workgroup. The workgroup invited all licensed LPNs in the state (n=8,032) to participate in the survey to determine level of interest in advancing their nursing education. In addition, the survey inquired about what barriers, if any, the LPN respondents encountered or anticipating encountering in the next five years. An open-ended question invited general comments (see appendix A).

A response rate of 26% (n=2057) provided quantitative data that included demographic information and ratings for five potential barriers noted in the literature. Qualitative data were obtained from the open-ended question at the end of the survey that asked, "Is there anything

else you would like to share with us about opportunities for LPNs to continue their education in Washington State?” Responses to the open-ended question resulted in 44 pages of written comments.

The population for the current study consisted of all licensed practical nurses (LPNs) in Washington State (n=8038) with survey return response of 26% (n=2067). The sample for this study consisted only of those whose responses had complete demographic data. The resulting sample was 21% response rate or 1661. Survey responses were further categorized as urban or rural according to which county respondents reside in. Respondents who live outside of Washington State were eliminated for the research questions asking about desire for academic progression in the next five years, resulting in a final sample size of 1477.

Urban vs Rural Operational Definitions

The definition of urban versus rural varies greatly. The Census Bureau (Census.gov, 2020) defines urbanized areas as those with population of 50,000 or more and defines rural as any population of less than 2,500 outside an urban area. Others determined the designation of urban or rural as dependent on the purpose of the categorization (e.g. financial, healthcare disparities, workforce deficits). Determining Washington State’s urban versus rural counties based only on population was not reflective of rural character counties using 2020 census data. Therefore, classification of rural and urban for this study was determined by the 2021 designations of the Washington State Office of Financial Management (WSOFM) published by the Department of Health (DOH) and designations from the Office of Community Health System (OCHS) series on rural-urban disparities (Washington State Office of Financial Management, 2021). See Appendix D.

Procedures

Following exemption approval from the University of Washington Institutional Review Board (IRB), survey data were obtained from the LPN Academic Progression Workgroup and all identifying information was removed. All survey data were inputted in MAXQDA 2020 Pro software. Survey responses missing demographic data and without interest level for academic progression in next five years were eliminated. The remaining survey responses were divided into urban and rural groups according to the county respondents reported living in. Respondents who lived outside of Washington State were removed, resulting in a sample of 1477. Quantitative analysis compared demographics of urban and rural respondents and mean values of barriers. Qualitative analysis of the open-ended question comments was coded by the investigator using MAXQDA 2020 Pro software. Key words and phrases were identified as codes and the software sorted the text to find all instances of the word or phrase. Six themes were identified by the investigator.

Research Questions

The research questions for the study were:

1. What demographic data describe urban vs rural LPNs' ratings of their interest for academic progression in the next five years?
 - a. Describe demographic profile by geographic region (selected urban vs rural counties)
2. What are the mean ratings for potential barriers identified as a "significant barrier" and "extreme barrier" with respect to:
 - a. Online classes?
 - b. In-person classes?
 - c. Childcare obligations?

- d. Work schedule flexibility?
 - e. Personal financial obligations/cost?
 - f. Lack of available programs near my home?
3. What is the frequency of barriers reported by selected region (selected urban vs rural counties)?
 4. For certificate vs associate degree prepared LPNs, what is their mean desire for academic progression?
 5. What barriers are reported in the qualitative data from the open-ended question?

Chapter Four

Findings

Findings from the LPN Academic Progression Survey

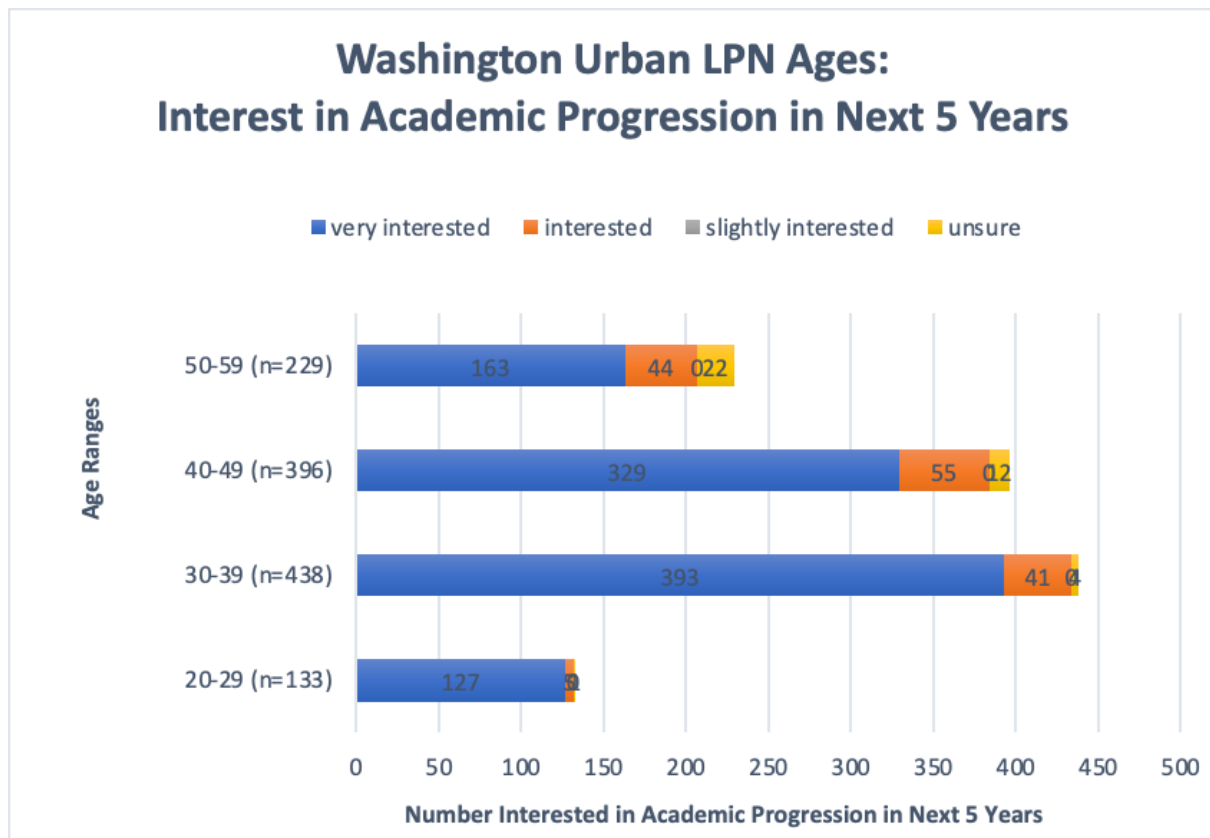
The purpose of this chapter is to report findings of analyzed qualitative and quantitative from existing data. Data were gathered from LPN Academic Progression Workgroup survey administered in 2019.

Research Question One

Research question one asked what demographic data described urban vs rural LPNs' interests in academic progression in the next five years. Respondents' demographic data are shown in Figures 1-8.

Figure 1

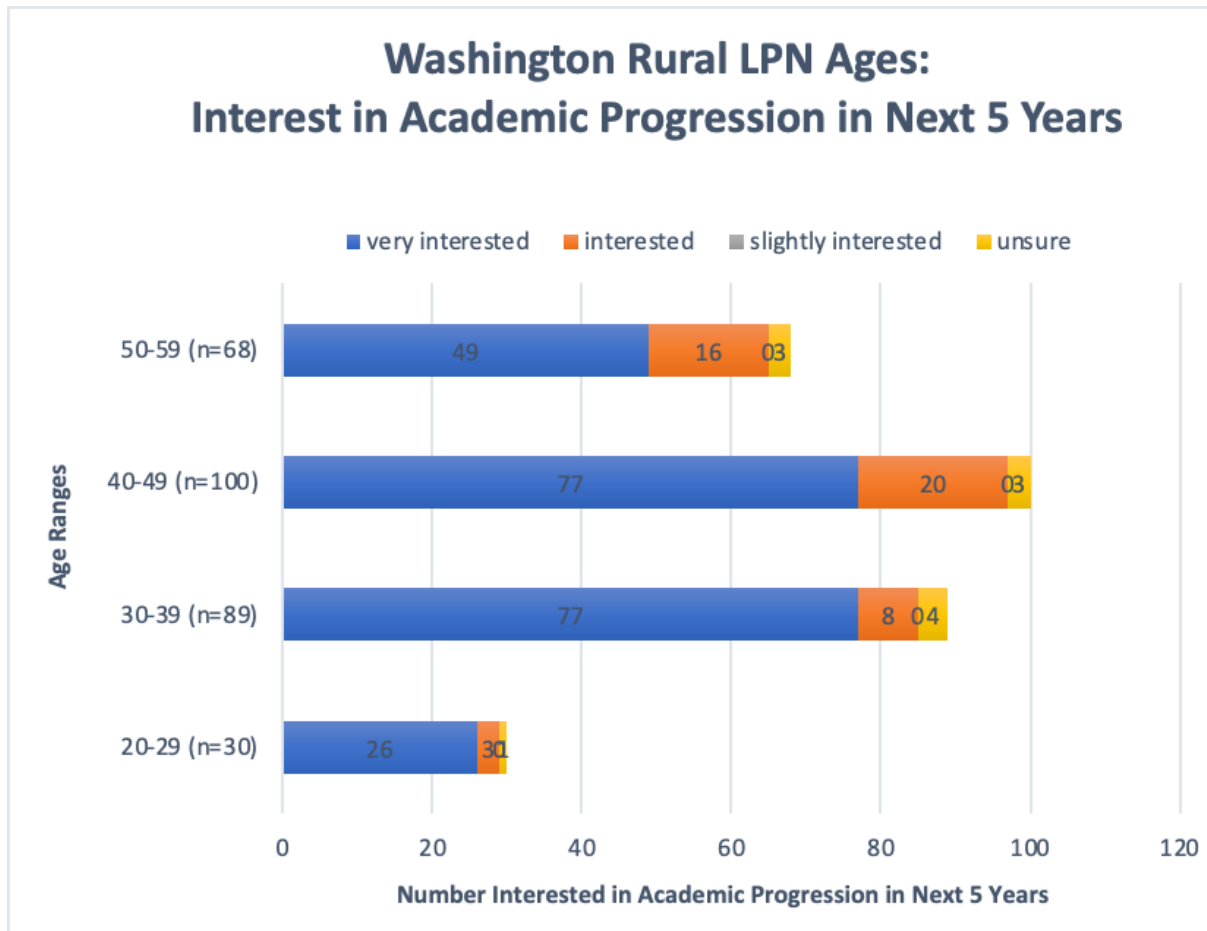
Washington Urban LPN Ages: Interest in Academic Progression in Next 5 Years



The largest age range group for urban respondents is 30-39 years, followed by 40-49 years. Most of all urban age group respondents indicated interests in academic progression.

Figure 2

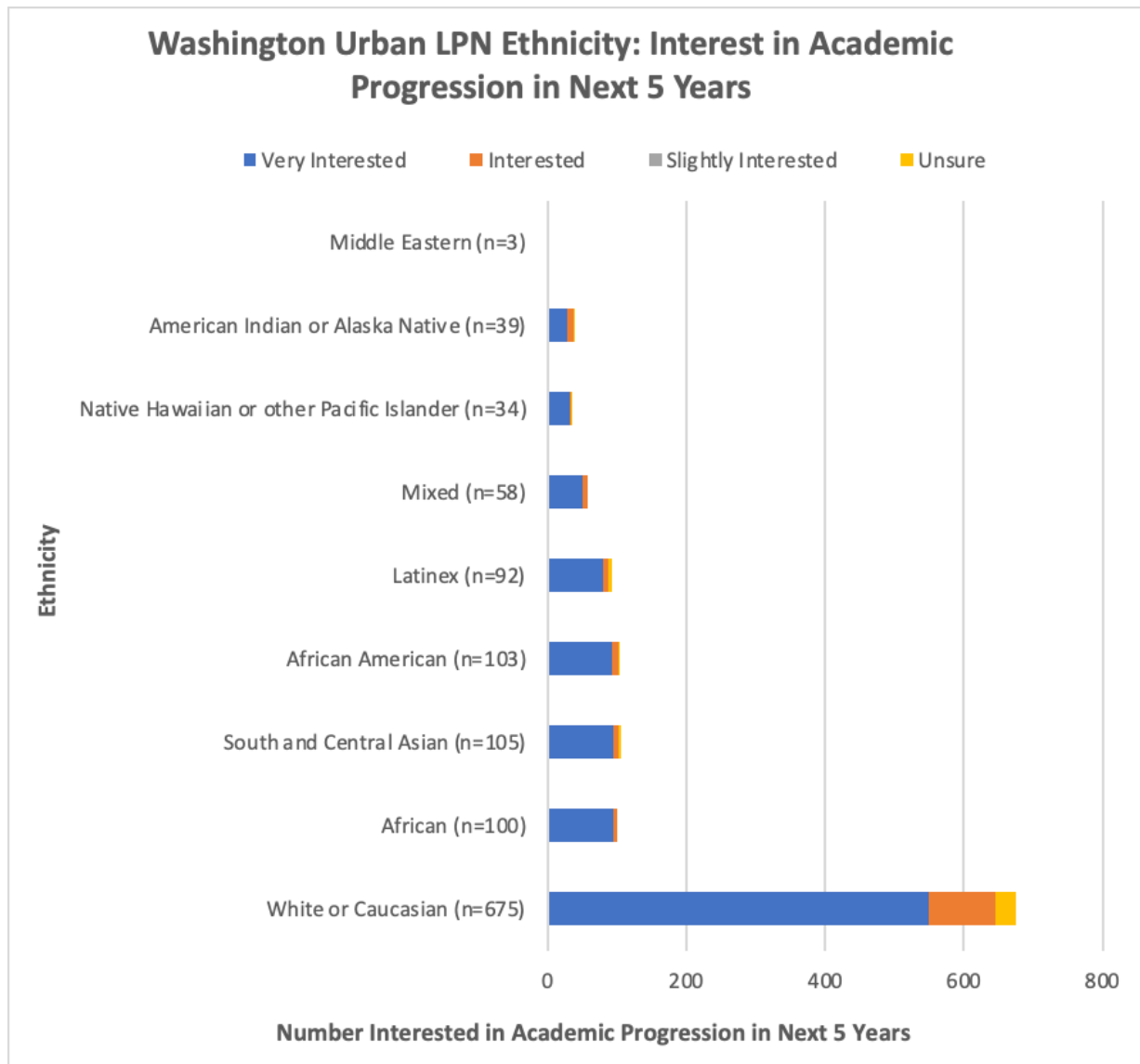
Washington Rural LPN Ages: Interest in Academic Progression in Next 5 Years



The largest age group range for rural respondents is 40-49 years, followed by 30-39 years. Most of all rural age group respondents indicated an interest in academic progression in the next five years. There were no responses of “slightly interested” in this group.

Figure 3

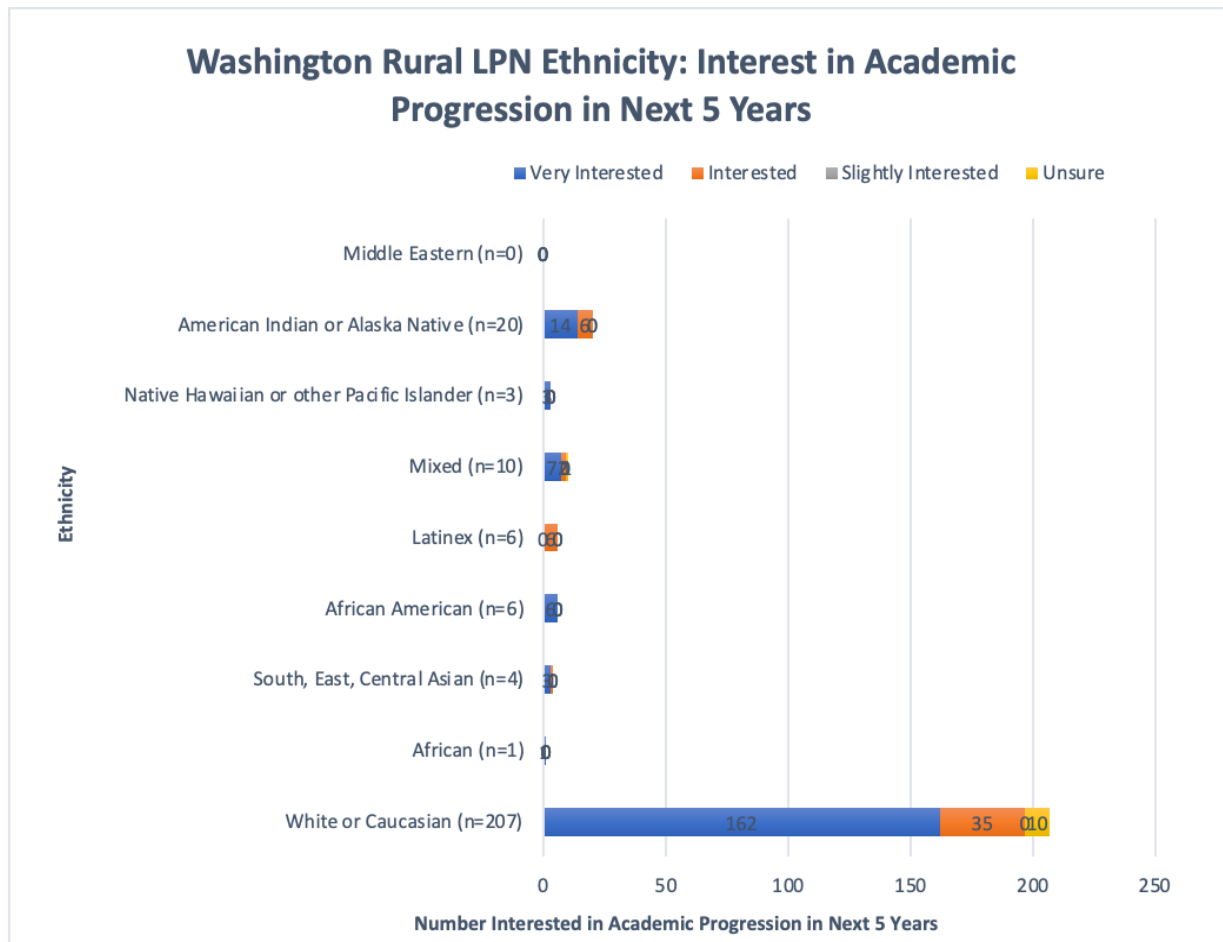
Washington Urban LPN Ethnicity: Interest in Academic Progression in Next 5 Years



Urban respondent ethnicity is diverse, with White or Caucasian being the largest group. Most of the urban survey respondents indicated they were “very interested” in academic progression in the next five years. There were no responses of “slightly interested” in this group.

Figure 4

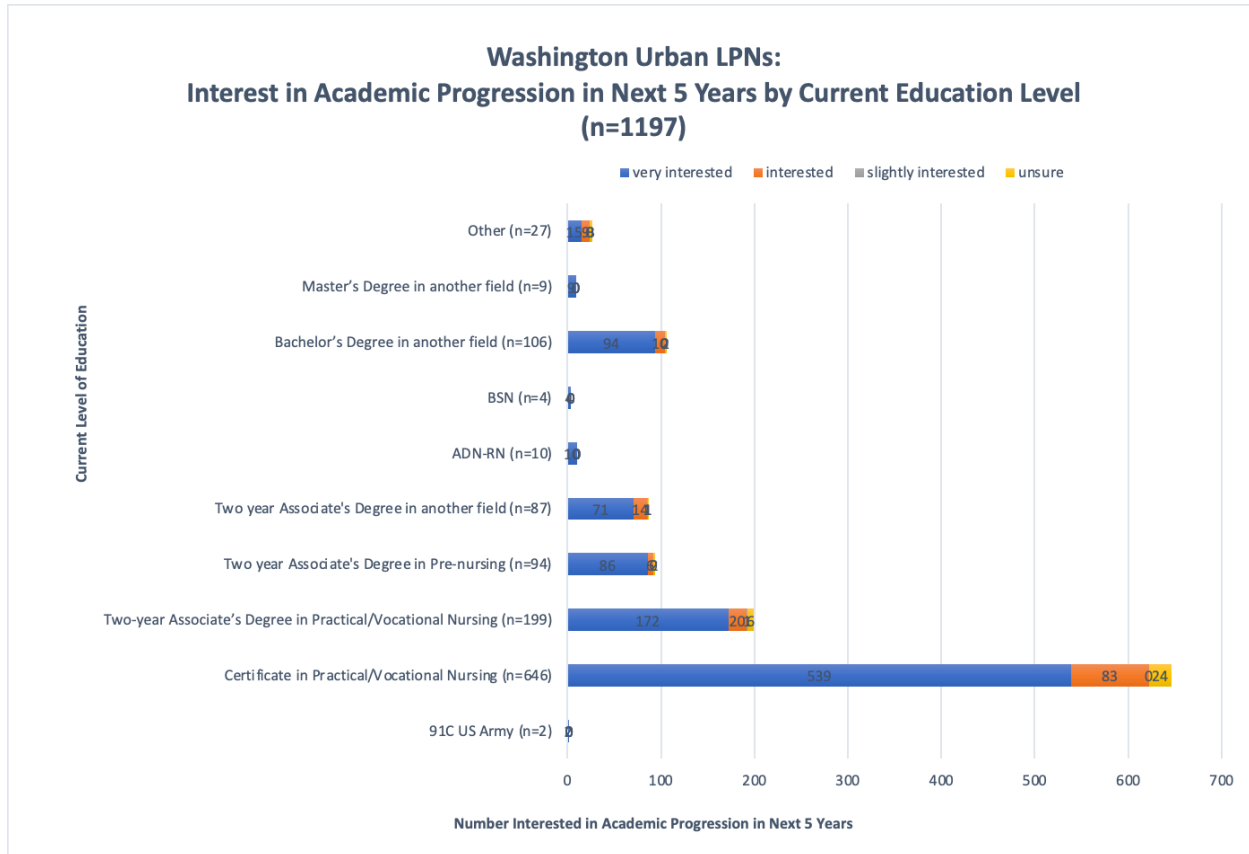
Washington Rural LPN Ethnicity: Interest in Academic Progression in Next 5 Years



Rural respondent ethnicity was diverse, with White or Caucasian being the largest group. Most of the rural survey respondents indicated they were “very interested” in academic progression in the next five years, with the exception of 100% of Latinex, who indicated they were “interested”.

Figure 5

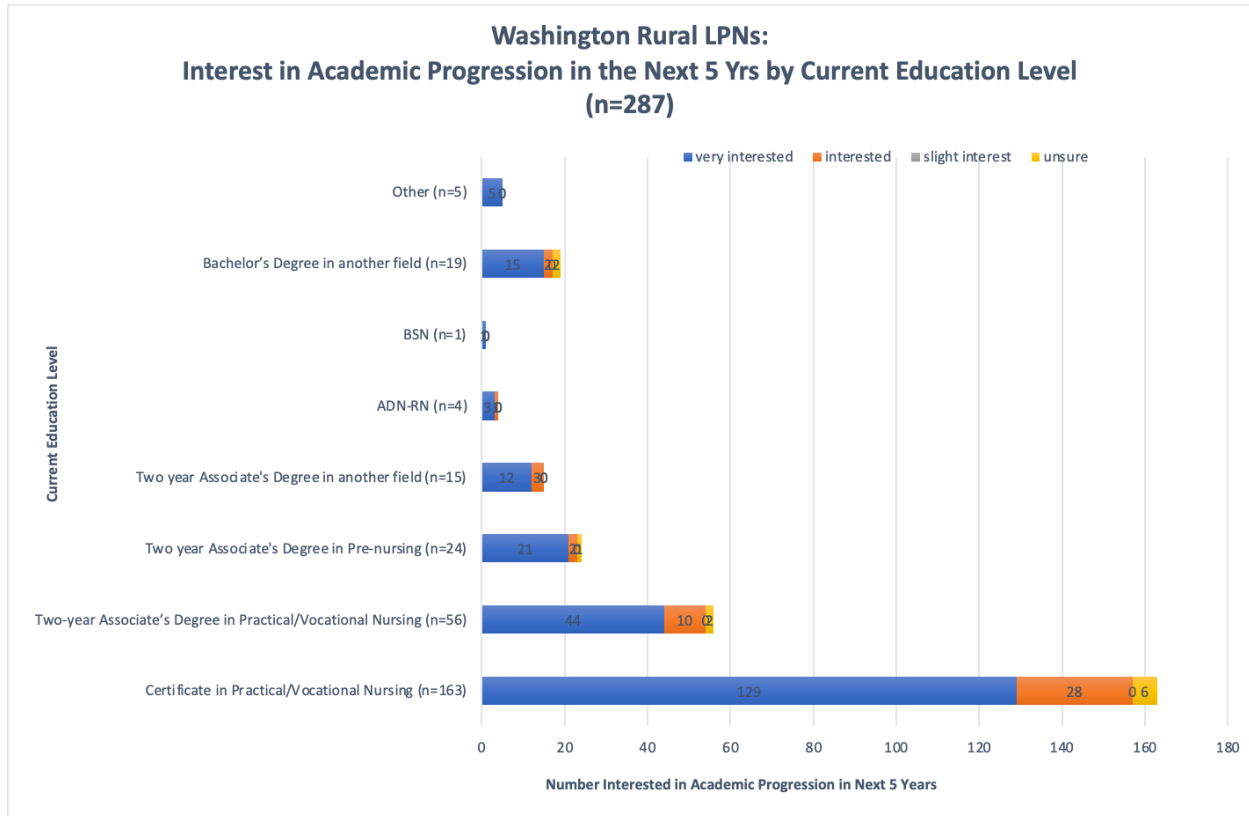
Washington Urban LPNs: Interest in Academic Progression in Next 5 Years by Current Education Level



Urban respondents indicated much diversity of education levels with interest in academic progression in the next five years. The largest group reported earning an LPN certificate. The range of education included Army-trained 91C, LPN certificates, LPN associate degrees, Pre-nursing associate degrees, associate degrees in different fields, current RNs (ADN and BSN), bachelor's degrees in another field and master's degree in another field.

Figure 6

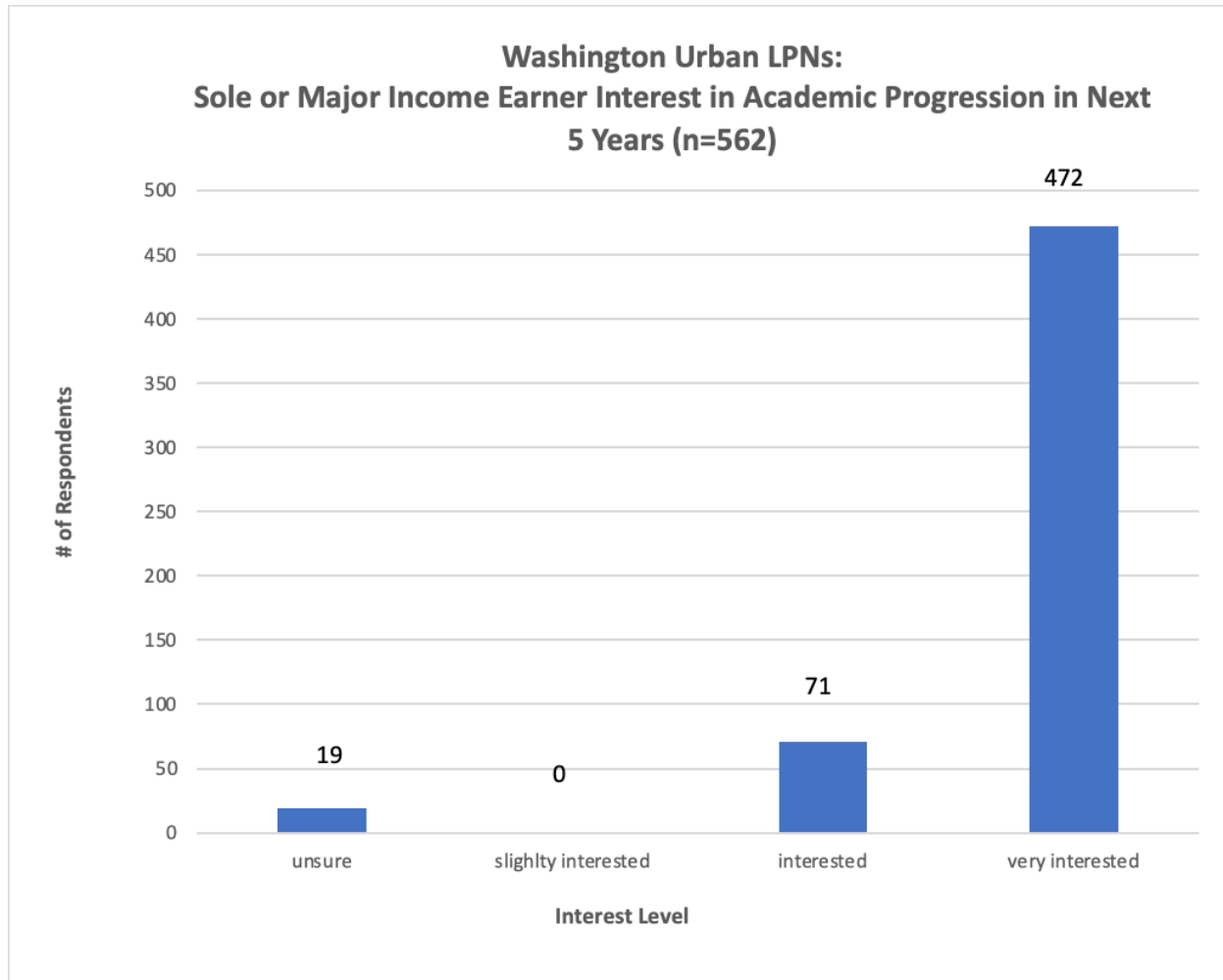
Washington Rural LPNs: Interest in Academic Progression in Next 5 Years by Current Education Level



Rural respondents indicated a range of education, from LPN certificates to bachelor’s degrees in another field. The largest group reported earning an LPN certificate. All respondents indicated they were “interested” or “very interested” in academic progression in the next five years.

Figure 7

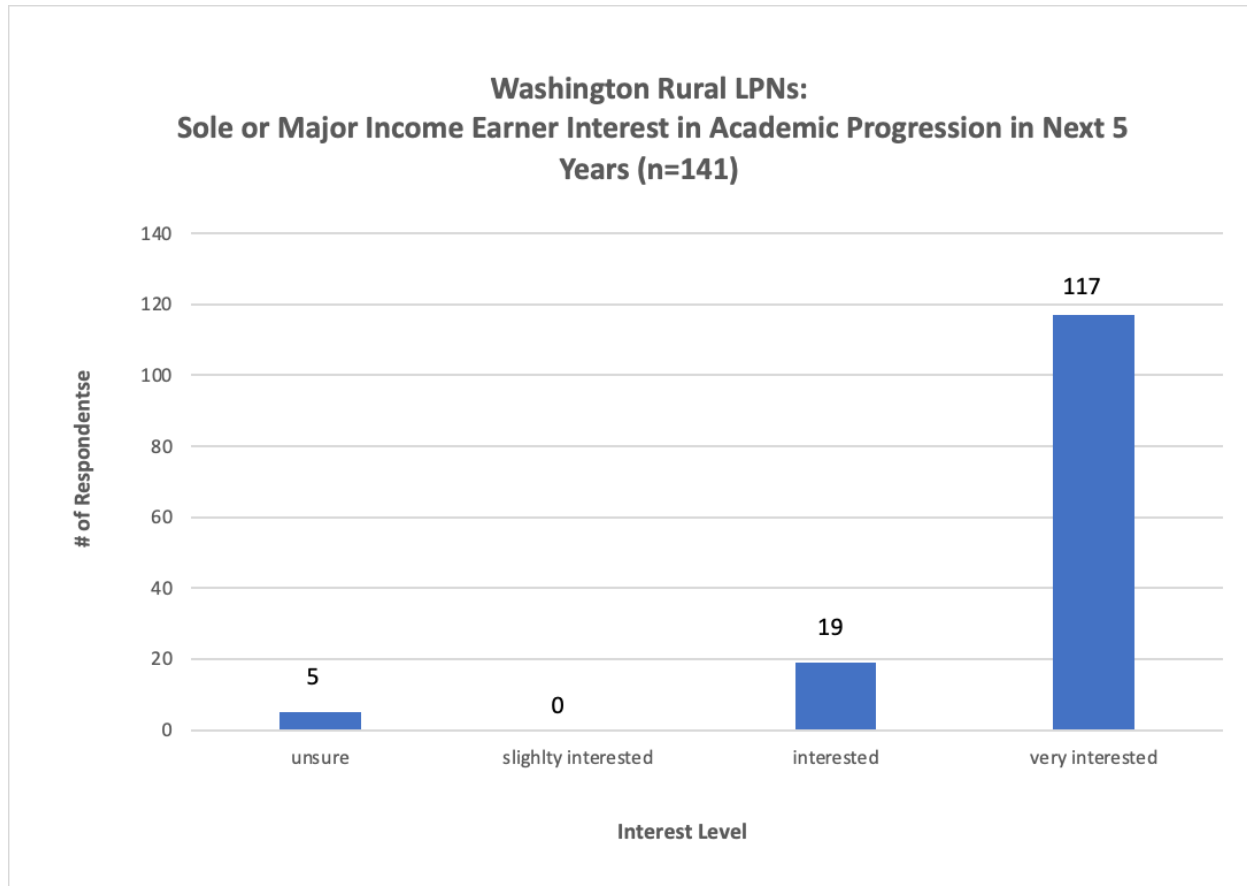
Washington Urban LPNs: Sole or Major Income Provider with Interest in Academic Progression in Next 5 Years



Urban respondents who identified as the sole or major income earner were “very interested” in academic progression in the next five years. A small number of respondents (n=19) were “unsure” if they were interested in academic progression in the next five years.

Figure 8

Washington Rural LPNs: Sole or Major Income Provider with Interest in Academic Progression in Next 5 Years



Rural respondents who identified as the sole or major income earner were “very interested” in academic progression in the next five years, followed by the group reporting “interested”.

Data evaluated for sub-research question one was limited to responses of “very interested” or “interested” in academic progression in the next five years by respondents (n=1477). The demographic data for urban vs rural respondents are presented in Table 1, Table 2, Table 3, and Table 4.

Table 1*LPN Age Range for Urban vs Rural Washington Counties*

Age	Urban (n=1187)	Rural (n=290)
20-29	130 (11.0%)	33 (11.4%)
30-39	436 (36.7%)	89 (30.7%)
40-49	393 (33.1%)	100 (34.5%)
50-59	228 (19.2%)	68 (23.4%)
Total	1187 (100%)	290 (100%)

Age ranges were similar for urban and rural respondents with two exceptions. There was a higher percentage of age 30-39 respondents in the urban group (36.7% vs 30.7%) and more age 50-59 rural respondents (23.4% vs 19.2%).

Table 2*LPN Ethnicity for Urban vs Rural Washington Counties*

Ethnicity	Urban (n=1187)	Rural (n=290)
African	98 (8.3%)	1 (0.3%)
African American	101 (8.5%)	7 (2.4%)
Native American or Alaska Native	38 (3.2%)	20 (6.9%)
East & Southeast Asian	87 (7.3%)	5 (1.7%)
Latinx	81 (6.8%)	35 (12.1%)
Middle Eastern	4 (0.3%)	-
Mixed	57 (4.8%)	10 (3.4%)
Native Hawaiian or Pacific Islander	34 (2.9%)	3 (1.0%)
South and Central Asian	16 (1.3%)	-
White	671 (56.5%)	209 (72.1%)
Total	1187 (100%)	290 (100%)

Diversity was more prevalent for urban respondents than rural respondents, apart from Latinx respondents who were higher in the rural group (12.1% vs 6.8%). The percentage of white

respondents in both groups was the highest of all ethnicities in both urban and rural respondents, although rural respondents were 72.1% white compared to 56.5% of urban respondents.

Table 3

Current LPN Education Level for Urban vs Rural Washington Counties

Current Education Level	Urban (n=1187)	Rural (n=290)
LPN Certificate	642 (54.1%)	162 (55.9%)
LPN Associate Degree	198 (16.7%)	55 (19.0%)
LPN w/Pre-nursing Associate Degree	82 (6.9%)	21 (7.2%)
BS in Another Field	104 (8.8)	20 (6.9%)
Other	161 (13.5%)	32 (11.0%)
Total	1187 (100%)	290 (100%)

Education levels were similar for urban and rural respondents, with more than half of LPNs interested in academic progression from both groups holding a certificate, not a degree.

Table 4

LPN as Sole/Major Income Earner for Urban vs Rural Washington Counties

Sole/Major Income Earner	Urban (n=1187)	Rural (n=290)
	556 (47%)	144 (49.2%)

The demographic data for sole/major income providers in urban compared to rural respondents were relatively consistent across the two groups. Close to half of urban and rural respondents reported themselves as sole or major income providers for their family.

The second research question asked what frequency of barriers were reported by urban versus rural Washington county respondents. Data evaluated for research question two were considered only by responses of “extreme barrier” or “significant barrier”. The results of the barrier frequency data reported as “extreme” or “significant” are in Table 5.

Table 5

Frequency of Reported Barriers Effecting Academic Progression in Urban and Rural

Washington Counties

Barrier (Extreme or Significant)	Urban (n=1187)	Rural (n=290)
Online Learning	157 (13.3%)	38 (13.1%)
Face to Face Classes	609 (52.2%)	162 (56.3%)
Family Care	343 (29.2%)	79 (27.3%)
Work Flexibility	645 (54.5%)	134 (46.4%)
Cost	698 (59.0%)	184 (63.7%)
Program Availability	919 (77.8%)	237 (82.3%)

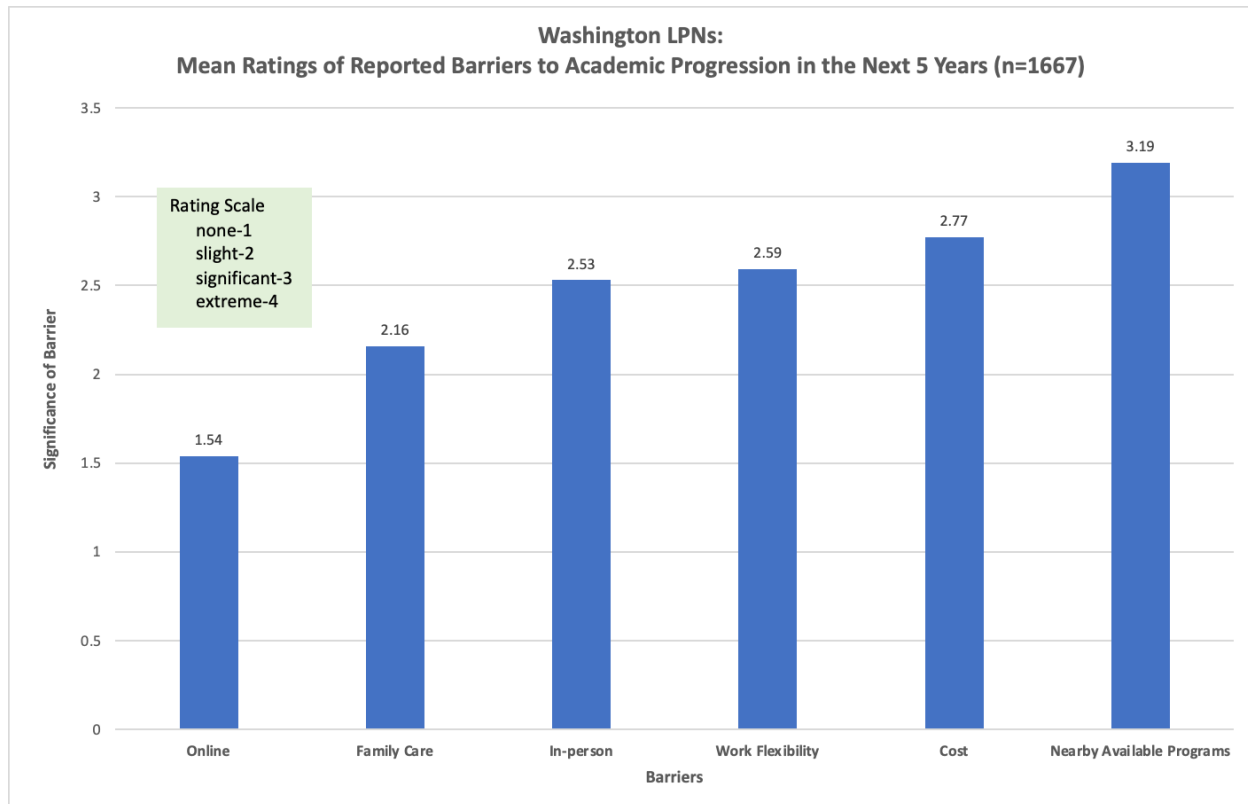
The barriers reported by urban and rural respondents were similar. The most variation between regions concerned work flexibility, cost and program availability. Work flexibility was reported as more of a barrier for urban respondents (54.5% vs 46.4%), while cost and program availability were reported more often by rural respondents (63.7% vs 59% and 82.3% vs 77.8% respectively).

Research Question Three

The third research question asked the mean ratings for barriers, identified by respondents as “extreme” or “significant”. The five identified barriers were online learning, face-to-face classes, family care obligations, work schedule flexibility, cost, and lack of near available programs. The results are in Figure 9.

Figure 9

Mean Ratings of Reported Barriers to Academic Progression in the Next 5 Years



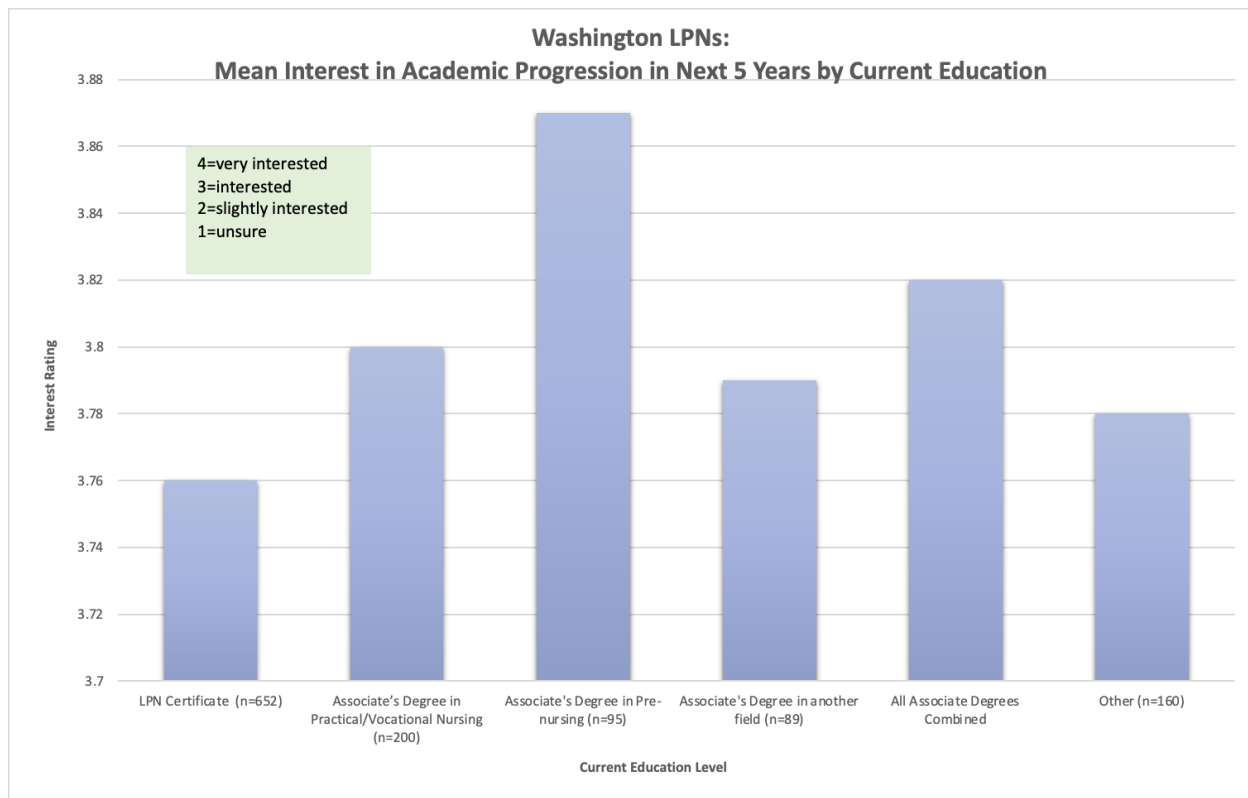
The mean ratings for the entire sample were similar to the frequency ratings for the six survey barriers in research question two. The most significant barriers were cost and availability of programs. Work flexibility and in-person classes were the next reported barriers. Family care and online classes were the least reported barriers.

Research Question Four

Research question number four asked for the mean desire for academic progression and compared LPNs with certificates to LPNs with associate degrees. Certificate LPNs, associate degree LPNs, LPNs with pre-nursing or other associate degree, and all associate degree LPNs combined are compared in Figure 10.

Figure 10

Mean interest for Academic Progression by Current Education Level



While the largest group of LPNs holds certificates ($n=652$), those respondents with an associate degree in pre-nursing were the most interested in academic progression in the next five years ($M=3.87$). All respondents with an associate degree indicated more interest in academic progression ($M=3.82$) than LPNs with certificates ($M=3.76$).

Research Question Five

Research question five asked what barriers are reported in the qualitative data from the open-ended question at the end of the survey asking, “Is there anything else you would like us to know?” The six themes identified from forty-four pages of comments submitted by 568 respondents are described next.

Constraints Reported by the LPN Population

Family obligations and the need to continue full-time work emerged as major constraint themes. Exemplar quotes demonstrate the theme of family obligations and the need to continue full-time work.

- “I can’t rid our household of its second income to go back to school.”
- “There needs to be a way to work full-time and work on your degree at the same time. I can’t quit work or go part-time and still support my family for any substantial length of time.”
- “Bridge programs need to account for nearly all LPNs needing to continue working full-time while in school and maintaining their family lives.”

Lack of Access and Program Options

More available programs and credit for experience as a nurse was an additional identified theme. Exemplar quotes below demonstrate this theme.

- “There aren’t enough LPN-RN programs and support.”
- “The sparse RN bridge programs available, the high ration of applicants compared to available spots, and high competition of pre-requisite course grades all severely impair LPNs from advancing their education despite interest.”
- “We also do not have any school in Washington that offers online program. These are the major reasons that limit our capabilities to advance to RN program. Not very many nursing schools have flexibility options, and almost all demand that you attend full-time in-class lessons.”

Barriers to Entrance

Expired prerequisites requiring retaking courses, different prerequisites for different programs, and perceived unfairness of entrance exams for qualified LPN applicants were

additional barriers cited by respondents that were also found in the literature. These findings are consistent with quantitative survey findings. Exemplar quotes below demonstrate this theme.

- “It will be very important not to take the TEAS test and repeat all or some of the prerequisites.”
- “There are virtually no ways to advance educations for LPNs. Prerequisites expire and RN programs are so difficult to get into it’s impossible.”
- “It’s unfortunate that as licensed LPNs we still are required to go back and so prerequisites over again in math & science due to them expiring. This is a huge barrier to return to school.”

Perceived Unfairness Toward LPN Advancement

LPN experience as a nurse perceived as not being valued by RN programs and faculty was another theme that emerged. Exemplar quotes below demonstrate this theme.

- “I understand nursing school needs to be difficult, but I feel it’s impossible to get your RN while an LPN. There’s no credit that we are nurses who are trying to advance our careers.”
- “Disturbing how hard it is to get an RN from LPN with all the experience already in the medical field. Others are fully welcome into programs straight from high school. We should have more support in the education area.”
- “LPNs should get credit for work experience... We are more knowledgeable than new grad RNs in some cases and not given the due respect.”

Consequences of Program Shortages to Nursing Shortages

Frustration leading to LPNs dropping plans to advance their education or leaving nursing for a different career emerged as an important theme. Exemplar quotes below demonstrate this theme.

- “I pretty much felt like WA state didn’t care about LPNs here & decided to stop trying to further my education in the nursing field. I am now looking to transition out of nursing entirely.”
- “For now, it is difficult to work as LPN, not many options available. Online schooling for those of us who would like to continue is almost nonexistent. Because of this a large number of LPNs leave the field to do something else or go to school for a different major.”

Hope for change

The last theme identified was a thankfulness for the survey and hopefulness for changes in their opportunities. The exemplar quotes below demonstrate this theme.

- “I have so much passion for my nursing career. Please help me to continue my education to get into RN school.”
- “I hope you will develop a successful and affordable LPN to RN or BSN model, I know many excellent LPNs that are working very hard to advance their careers and education in nursing.”
- “I sincerely hope this survey helps advance LPNs to RNs because this should be a natural progression that is encouraged and fostered through healthcare organizations, colleges and universities, as well as the state nursing commission. Thank you for your efforts and outreach.”

Summary

In summary, this section reported findings of analyzed qualitative and quantitative data from LPN Academic Progression Workgroup survey administered in 2019. Findings included similarities and differences in urban and rural Washington county respondent demographics, perceived barriers to academic progression and current education level.

Chapter Five

Discussion

The purpose of this chapter is to discuss the findings of this study and the implications for nursing education programs and workforce development in Washington State. Recommendations for nursing education and workforce collaborations are discussed.

Research Question One

Research question one compared the demographic profile of urban vs rural survey respondents (n=1477) and their interest levels in academic progression within the next five years. Data for the demographic categories of age, ethnicity, current education level and sole income earners were compared. The two largest age groups were 30-39 years old and 40-49 years old for both urban (36.7% and 33.1%) and rural (30.7% and 34.5%) respectively. Most respondents indicated they were “very interested” or “interested” in academic progression in the next five years, regardless of age. Based on the literature, this indicated that these potential LPN-RN students were adult learners with a specific goal.

The ethnicity comparison found that the majority of respondents were white (urban 56.5%; rural 72.1%). Non-white rural respondents (27.1%) closely reflected the general population diversity of the state of 25% (United States Census Bureau, 2019a). Urban non-white respondents (43.5%) reflected a higher diversity rate than the state population of 25%. Most responses from each ethnicity group indicated they were “very interested” or “interested”. The exception was Latinex responders, 100% indicated an “interested” response. This indicates that all ethnic groups of respondents surveyed were very interested in academic progression Nursing education programs in rural counties should consider how to attract and support a more diverse population of nursing students to their programs.

The education level for most LPNs was certificate (54.1% urban, 55.9% rural) followed by LPN Associate Degree (16.7% urban, 19.0% rural). Almost half of the respondents to the survey identified as the sole or major income earner for their family (47% urban, 49.2% rural). The implications of the demographic profiles for respondent groups in urban and rural counties in Washington State were that there were more similarities than differences, apart from ethnicity. Both urban and rural respondents who were sole or major income earners were “very interested” or “interested” in academic progression in the next five years. This suggests that work schedules must be taken into account when developing academic progression pathways for LPNs by both workforce employers and nursing education programs. Employers who want to increase RN and/or BSN educated nurses will need to become more creative in providing flexible schedule options to support the working LPN in academic progression. Potential students will need a predictable schedule with some flexible scheduling options. Nursing programs will need to become more creative in how course schedules are determined requiring face-to-face attendance.

Research Question Two

The second question is answered by the mean ratings for potential barriers to academic progression. The results revealed that the mean barrier rating for online classes was considered the least significant ($M=1.54$). Family care issues were also rated low as a barrier ($M=2.16$). In-person classes and work schedule flexibility were rated almost equally as barriers ($M=2.53$ and 2.59 respectively). The two barriers rated highest were cost ($M=2.77$) and availability of local programs ($M=3.19$). This suggests that increasing availability of local programs and investigating options to lower program costs to students were important to the respondents. Encouraging local nursing programs to invest time and resources to develop LPN academic progression programs should be supported by finding funding sources also interested in increasing the RN workforce and diversity. One available source is the Health Resources and

Services Administration (HRSA) which offers grants to strengthen the health workforce and increase health equity. HRSA grants could also be utilized to offer scholarships or grants to potential LPN-RN students to off-set the cost of returning to school. Other funding sources to be considered include the large healthcare insurance companies such as Premera and Kaiser Permanente.

Research Question Three

The third question asked the frequency of “extreme” or “significant” barriers reported by the urban and rural groups. (See Table 5). Online learning was the least significant barrier, followed by family care obligations in both urban and rural respondents. Face-to-face classes were reported as “significant” or “extreme” barriers for more than half of urban and rural respondents.

Work schedule flexibility to accommodate academic progression was reported as a more frequent concern for urban county respondents compared to rural respondents. Cost was an “extreme” or “significant” barrier for both groups but more frequent for rural respondents compared to urban respondents. The most frequent barrier reported in both groups was lack of available programs nearby. These findings were consistent with what is reported in the literature (Wallen et al., 2017).

These findings suggest that question two, asking what the mean ratings of potential barriers are, are consistent with the frequency of “extreme” or “significant” barriers reported by urban and rural respondents. Recommendations, therefore, would be to encourage local LPN-RN programs to be developed by nursing education programs. Because program development can be costly, it is recommended that nursing programs consider looking for research funding to support that development. The need for student financial support must also be addressed.

Research Question Four

The fourth question compared the mean interest for academic progression for LPNs who graduated with a certificate vs LPNs who graduated with an associate degree in practical nursing. Some respondents indicated they earned an associate degree unrelated to their LPN education. (See Figure 5). There were only four total responses for “slightly interested” and eleven total “unsure” responses, indicating high level of interest in academic progression in the next five years from all LPNs regardless of current education level. The mean interest was similar for certificate LPNs (n=652) vs LPNs with an associate degree of any kind (n=200), (M=3.76 and M=3.8 respectively). The largest mean (M=3.87) was for respondents with associate degree in pre-nursing (n=95). The mean interest for respondents with an associate degree in another field (n=89) resulted in M=3.79. These means indicate a high interest in academic progression regardless of current education level.

While the mean rating may be interesting, frequency of desire for academic progression is a more useful measure for determining the percentage of LPNs desiring academic progression based on their current education level. Determining frequency of desire for academic progression provides a snapshot of the number of interested LPN respondents, a potential influence for nursing programs considering the investment of time and resources to develop an LPN-RN program in their area.

Data concerning current education and interest for academic progression could be used to determine how a nursing education program could design their program to meet the educational needs of those LPNs without associate degrees seeking academic progression. Program designs might include leaving one quarter open from nursing courses so that LPN-RN students have the opportunity to enroll in general education courses necessary to complete an associate or

bachelor's degree. Addressing the academic needs of Certificate LPNs is of particular importance as this is the largest number of LPNs in urban and rural Washington State,

Research Question Five

The final research question asked about additional barriers reported in the open-ended question, "Is there anything else you would like us to know?" and compared those barriers to what has been reported in the literature. The six themes identified as barriers by the survey respondents were the unique responsibilities of LPNs, lack of local access to academic progression, barriers to RN program entrance, perception of unfairness toward LPN advancement, drastic consequences of program shortages to the nursing profession, and a sense of hope for changes in their opportunities for academic advancement.

The first theme was the unique obligations of the LPN population which highlighted their identified need to continue full-time work while going to school. The need to continue work is reported in adult learner literature and in the limited literature focused on LPN academic progression. This is an important finding with implications for nursing education programs to consider a change in their model of education. Survey respondents reported being strongly encouraged to cut back or stop work to be successful. Since the demographics of this survey sample indicated that more than 47% of respondents were sole or major income providers for their households, LPN respondents reported reluctance to take on educational debt while cutting their income drastically to meet the typical nursing course schedules.

The second theme emerged as lack of access or limited program options. This reinforced the sparse opportunities for LPNs to progress to RN or BSN in a program designed for such learners. Of concern were the limited number of programs available and the **sole** reliance on pre-requisite grades for admission to those limited programs. The lack of online options and requirement of full-time, face-to-face classes were common comments. One implication for

nursing education programs is the need to reassess the historical model of how nursing education is delivered, particularly since LPNs enter with a foundation of knowledge in nursing that prelicensure students do not have. Designing advanced placement options that recognizes the LPN's nursing license would remove the perceived barrier of relying only on pre-requisite grades for admission. The American Academy of Colleges of Nursing (2014) has recommended moving from GPA structured admissions to holistic admissions. Holistic admissions evaluate the potential student on criteria that aligns with the program vision, with GPA only representing a portion of the admission requirements. Using holistic admission criteria in healthcare programs was found to increase diversity without decreasing successful licensure outcomes (Urban Universities for Health, 2014). Structuring face-to-face time to limit the number of days the LPN must negotiate work schedule with their employer to attend classes could serve as a model to mitigate the barrier of face-to-face classes.

The third theme identified barriers for LPNs desiring to enter RN programs. The most frequently cited barriers by survey respondents were expired pre-requisite credits, different pre-requisites for different programs, and the perceived unfairness of being required to take entrance exams like Test of Essential Academic Skills (TEAS) and Health Education Systems, Inc. (HESI) when they had a professional LPN nursing license. The literature has also identified these barriers (Wallen et al., 2017).

There is currently no literature to support the practice of expired pre-requisite credits and requiring students to re-take courses they have successfully completed. Implications for nursing education programs include strong consideration of eliminating the practice of not accepting science courses after a certain number of years which forces students to repeat courses for additional cost of time and money. Programs concerned about students' ability to be successful based on how long ago they completed science courses could consider alternative methods of

assessing potential students' knowledge. Designing entry level courses to review & augment the LPN's knowledge could honor what LPNs know while assessing and remediating any knowledge deficits. Another practice that could be eliminated is requiring LPNs to take entrance exams (TEAS or HESI) at additional expense, instead granting credit for passing the exam for their LPN license. In Washington State there is a precedent in RN-BSN programs for this practice of granting nursing credits for passing the exam for RN license. The model could be adapted to help advance LPNs in their academic progression. Last, standardizing entrance requirements for all nursing programs would provide fewer obstacles for LPNs to meet those requirements. The Council of Nurse Educators of Washington State (CNEWS) has implemented a statewide agreement for pre-requisite course requirements for RN programs which is a good start toward standardizing admission requirements. Each college and university might have additional requirements for completion of a degree from their institution, but standardization of nursing program requirements would address many of the concerns survey respondents shared regarding what they perceive as unfair barriers.

The fourth theme identified was a perceived unfairness toward LPN advancement and a perception that the LPN's experience as nurses is not valued by RN programs. While some LPNs with many years of experience expressed a belief that they should simply be allowed to take the RN licensing exam based on their experience, more of the comments expressed recognition that the RN coursework should be rigorous but felt disrespect because their nursing experience was not considered "credit worthy". The implications for nursing education programs include adopting an attitude of appreciation for what the LPN student brings to an RN program and recognizing their work experience by granting credits toward their RN degree based on passing their LPN licensing exam.

The fifth theme identified was the drastic consequences of LPN-RN program shortages to the loss of nurses from the profession. This troubling theme was exemplified by reports of so much frustration over the barriers and perceived lack of respect that LPN respondents reported leaving the profession to work in other fields. This should be alarming to workforce and nursing education programs. There is a projected nursing shortage of 13-24% by 2031. Nursing education programs have a responsibility to work collaboratively with each other and workforce entities to address what LPNs report as impediments to their academic progression.

The last theme identified was not a barrier but one of hope for changes in their opportunities for academic progression. Comments included gratefulness that the barriers LPNs faced for academic progression were being seriously considered and calls for collaboration between healthcare organizations, colleges and universities and the nursing commission to develop a “natural progression” from LPN to BSN.

Summary and Recommendations

Washington State LPNs report significant interest in academic progression but are faced with many barriers that have also been reported in the literature. This study verified that the LPN respondents were experiencing the barriers of no nearby available programs, cost of academic progression, lack of work schedule flexibility in work hours and family care obligations. Face-to-face classes were a barrier to over 52% of respondents, while online classes were a barrier for a small percentage. In addition, qualitative responses revealed a perception of unfairness and frustration that there are so few opportunities for progressing to RN programs and around standardized testing (ATI, HESI, Kaplan), used as screening tools for admission. In addition, respondents reported that expired pre-requisite science courses that must be retaken required additional expense and time, additional barriers. Other barriers reported were the different entrance requirements across programs and the disrespect LPNs reported feeling when their

nursing credentials and experience seemed to carry no value when trying to academically progress. Respondents suggested that their experience as nurses should be evaluated for advanced placements in RN programs and be considered more favorably for entrance than potential students with no healthcare experience.

Implications for the Workforce

With a coming shortage of registered nurses, if this LPN population is to enter RN education, it will need predictable work schedules from employers with some ability to consider a more flexible schedule, such as cutting back on hours temporarily. Tuition assistance to off-set the cost of additional nursing education will be necessary. The current shortage of nurses makes flexible work scheduling a challenging task for the workforce employers but a necessity to support successful academic progression. Offering tuition assistance is an incentive to interested LPNs who cannot justify incurring additional educational debt associated with academic progression. Not wanting to incur additional academic debt was reported frequently by survey respondents and is significant when considering that almost half of the survey respondents were the sole income provider for their households.

Implications for Nursing Education

The implications of this study for nursing education programs are significant. If the majority of LPN survey respondents are interested in academic progression, there need to be some admission and program changes to support these interested LPNs in academic progression. Nursing education programs must be willing to reimagine the educational needs of LPNs as different than students who come with little or different healthcare experience into an RN program. Recognizing that almost half of the LPNs interested in academic progression hold certificates instead of associate degrees, more nursing education programs will need to consider options for general education courses to be completed in the academic year when there is no RN

coursework for those LPNs. It is also time to re-evaluate the practice of only using pre-requisite grades as evaluation criteria for admission to LPN academic progression. There is some literature (Benefiel, 2011; Luna, 2013; Wolkowitz & Kelley, 2010) that correlates academic success in RN nursing education programs with pre-requisite science grades. Using pre-requisite grades as entry criteria for LPNs to progress in an RN program to be successful academically has not been studied. If this reported barrier is to continue, research in this area is recommended. Currently, Washington State LPN programs require science pre-requisites for entrance. Adopting the RN education model, prerequisite GPAs have been used as acceptance criteria into LPN programs. Research on completion of RN programs indicates that science grades are a positive indicator for success (Luna, 2013). LPNs are already licensed nurses who have demonstrated their ability to complete a nursing program and pass their licensing exam. This brings into question how much weight GPAs should be given in determining the potential success of LPNs seeking RN education.

The use of standardized test scores (TEAS, HESI, Kaplan) for admission is another barrier to be re-examined. Standardized tests are culturally biased to favor white students (Au, 2009) and serve as an additional barrier to increasing diversity in nursing. Scores used to determine the applicant's likelihood of program success have not been studied for LPNs in RN programs and therefore should be researched for students who hold a practical nursing license if it to continue as an admission practice. While not a guarantee, holding a license implies the ability to successfully complete a nursing education program and subsequent licensing exam.

Nursing education programs will need to reconsider the traditional full-time face-to-face education model, adapting the virtual or hybrid model necessitated by Covid-19 restrictions as perhaps a permanent model to accommodate the education needs of the working LPN. Access to computer equipment and reliable connectivity are issues that will require all nursing education

programs to address with resource allocations. With the help of the current federal administration's focus on infrastructure, to include access to high-speed internet, there is support to make online education available everywhere in the United States.

Designing more flexible class options with less face-to-face class time required will be necessary to provide more flexibility in classroom options for working LPNs. Potential flexibility options could include limiting in-class activities to one or two days/week, or evening/week-end clinical or lab time. Streamlining required nursing courses to take into consideration the knowledge and experience of the LPN is necessary to decrease overall time and cost to academic progression. An innovation to support all nursing students at every level would be to offer onsite childcare services to lessen the family care obligations barrier.

Investing in development of LPN pathways to RN level will be necessary to increase the availability of local program options for those LPNs desiring academic progression. Developing curriculum specific to LPNs takes time and money so nursing programs must make a commitment of those resources to fulfill this need. Collaborative efforts between nursing education programs and work force entities will bring the most effective environment for lasting change in the perceived barriers reported by LPNs to academic progression. The outcome will be a more efficient pathway for the advancement of nurse education from LPN to RN or BSN.

Limitations

This study used existing data from a convenience population of LPNs licensed in Washington State. Results cannot be extrapolated to the general population of all LPNs. Although the survey response rate of 26% is considered high, these survey respondents tend to self-select into groups with very strong opinions, either positive or negative (Perrino et al., 2013). This means that the survey respondents were only able to provide a snapshot of the desire for academic progression and anticipated barriers for progression of Washington State LPNs.

Future Research

It would be valuable to obtain focus group feedback from current practical nursing students and LPN students currently in the process of academic progression. The focus group data could be compared to the literature findings and this survey data for further verification of barriers. In addition, focus group data could provide insight into what is necessary to support or mitigate reported barriers directly from those students currently affected.

If standardized test scores continue to be admission criteria for LPNs entering RN or BSN academic programs, there needs to be research on this practice. Current research has only evaluated the correlation of standardized test scores to completion of RN programs and passing the subsequent licensing exam. If this reported barrier of standardized test scores is to remain, there should be research to support its use.

Last, reports from new or expanded nursing education programs focused on LPN academic progression would be extremely helpful additions to the literature. Reports from new or expanded LPN progression programs can help current understanding of recommendations for change and effectiveness of those changes. While there are a few small case studies specific to LPN progression to RN and/or BSN in the literature, there is an absence of follow-up reports on the success or failure of strategies implemented in LPN academic progression pathways.

A final consideration should be the effect of how transitioning the LPN to RN will affect the LPN workforce. Currently there is a workforce initiative (Department of Health, 2021) in Washington State to provide seamless academic progression for Nursing Assistants-Certified (NAC) to LPN. This work, brought together representatives from the Department of Health, NAC education programs, and workforce employers. The focus of this work group has been removing barriers for nursing assistants who are interested in academic progression to LPN to increase the LPN workforce.

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Appendix A**LPN Academic Progression Survey**

Q1: When did you complete your LPN/LVN education?

Q2: What is the highest level of education that you have completed?

Q3: Are you currently enrolled in an academic program to advance your education?

Q4: What type of program are you enrolled in?

Q5: What is your current employment status?

Q6: Identify the type of setting that most closely corresponds to your nursing practice position?

Q7: What is the highest level of nursing education you hope to obtain?

Q8: How interested are you in continuing your nursing education from LPN to associate degree RN or LPN to BSN within the next five years?

Q9: If interested in continuing your nursing education, what type of format(s) would you prefer?

Q10: How far would you be willing to drive (one way) for periodic in- person sessions and/or clinical placements as part of a largely online LPN to RN and/or LPN to BSN pathway?

Q11: How long would you be willing to drive (one way) for periodic in- person sessions and/or clinical placements as part of a largely online LPN to RN and/or LPN to BSN pathway?

Q12: How important is each of the following employment related reasons in your possible interest in continuing your nursing education?

Q13: How important is each of the following personal reasons in your possible interest in continuing your nursing education?

Your own personal and professional development

Expanded nursing knowledge and scope of practice

Opportunity for increased salary

Increased understanding of health care delivery systems

Opportunity for a position in additional settings

Opportunity for a more flexible work schedule

Opportunity for a promotion in my current position

To eventually go to graduate school

Meeting expectations of friends and/or family

Q14: What are some barriers that may make it difficult to return to school to earn an Associate (ADN) or Baccalaureate (BSN) degree?

Lack of available programs near my home

Personal financial obligations: how much it will cost

Work schedule/flexibility to attend classes

In-person classes

Childcare or other family obligation

Online classes

Q15: What County do you live in?

Q16: What is your current age?

Q17: What ethnic group(s) do you identify with? Select all that apply

American Indian or Alaska native

East and Southeast Asian

South and Central Asian

Middle Eastern

African

African American

Hispanic or Latino

Native Hawaiian or Pacific Islander

White or Caucasian

Mixed race

Other

Q18: Which of the following statements describes you? Select all that apply

I am the major or only source of income for my family

I am the first person in my family to go to college

I am a single parent

I care for aging parents or other family members

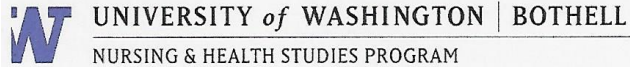
English is not my first language

I am a veteran

I would like to explore services from the school disability center (e.g. for learning differences or other accommodations)

Q19: If there is anything else you would like to share with us about opportunities for LPNs to continue their education in Washington State, please tell us in the space below:

Appendix B



April 17, 2021

Dear Dianne,

Thanks for your letter requesting permission to use the LPN Career Advancement Survey data for a secondary analysis for your dissertation research. This survey was developed, implemented and analyzed in 2019-2020 as part of a Premera funded grant aimed at developing career advancement pathways for LPNs in WA State. In reviewing your plans, I understand the following:

1. You are primarily interested in perceived barriers to academic progression and will begin by determining the means for selected barriers from Survey Question 14. I believe you will first do this for the entire sample and then move to geographical regions identified as rural vs urban. Given that many counties have both urban and rural portions, I think it will be important to clarify how you are determining which category a given county should be assigned. Another approach that you might consider would be by Workforce Regions since so much of our state data is reported in that way.
2. You also plan to describe the level of interest in academic progression by both geographic regions as well as whether their LPN program awarded a certificate or associate degree. Given the small number of LPN programs available in 2019, it may be difficult to generate sufficient numbers to differentiate across regions.
3. You also plan to discuss the similarities or difference between barriers identified in the literature with those barriers reported in Question 19. It is not clear to me whether you plan to reanalyze the raw responses or compare your findings reported in the literature with the key themes identified by Dr. Sondra Purdue in her previous analysis for us.

Sorting the data by counties or geographic regions of clustered counties would be very helpful for the workgroup to receive back and especially for the four schools currently in the planning stages of developing an LPN to BSN pathway, e.g., Columbia Basin College, Green River College, Saint Martin University, and Wenatchee Valley College.

We also expect that any plans for publication of this data or your secondary analysis will be discussed in advance with the core Premera Grant team for appropriate co-authorship and/or credited contributions.

With the above understanding, you have permission to use the LPN Career Advancement Survey Data for secondary analysis and completion of your doctoral dissertation. I look forward to seeing your final results and completed dissertation when finalized and approved by your committee at UW Tacoma.

Respectfully,

A handwritten signature in cursive that reads 'Mary A. Baroni'.

Mary A. Baroni, PhD, RN
Professor Emeritus
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Appendix C

From: zipline@uw.edu 
Subject: STUDY00013474 is not human research
Date: June 16, 2021 at 1:34 PM
To: dnauer2@uw.edu



Template:uw_IRB_T_Post-Review_NotHumanResearch

ZIPLINE

Human Subjects Division
University of Washington
Box 359470
Seattle, WA 98195-9470

Notification of Not Human Research Determination

To: M Dianne Nauer

Link: [STUDY00013474](#)

P.I.: M Dianne Nauer

Title: LPN Barriers in Academic Progression

Description: It has been determined that this submission does not involve "human subjects" as defined by federal regulations. It does not require exempt status or IRB review. For additional details, click on the link above to access the project workspace.

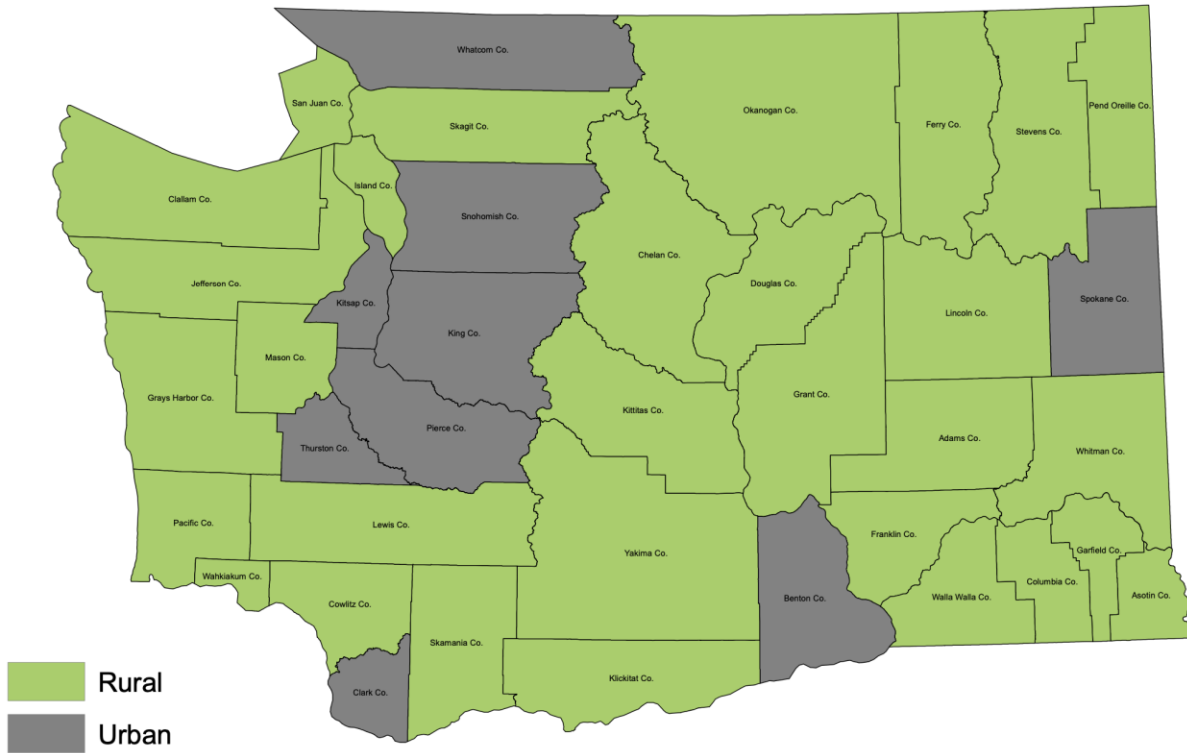
ZIPLINE

UW Tower 17th floor
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www.washington.edu/research/hsd/

Appendix D



Rural and Urban Counties



Based on Washington State Office of Financial Management, April 2017

Counties with a population density less than 100 persons per square mile or counties smaller than 225 square miles as of April 1, 2021

Adams (10.81)	Grays Harbor (39.68)	San Juan (100.63)
Asotin (36.16)	Island (414.20)	Skagit (76.17)
Chelan (27.93)	Jefferson (17.99)	Skamania (7.51)
Clallam (44.60)	Kittitas (20.63)	Stevens (18.73)
Columbia (4.84)	Klickitat (12.37)	Wahkiakum (16.26)
Cowlitz (97.97)	Lewis (33.81)	Walla Walla (49.09)
Douglas (24.52)	Lincoln (4.83)	Whitman (22.23)
Ferry (3.63)	Mason (69.04)	Yakima (60.85)
Franklin (80.14)	Okanogan (8.26)	
Garfield (3.17)	Pacific (23.64)	
Grant (38.22)	Pend Oreille (10.00)	