



## Predicting Transitions in the Nursing Workforce: Professional Transitions from LPN to RN

Cheryl B. Jones, PhD, RN, FAAN; Mark Toles, PhD, RN; George J. Knafel, PhD; Anna S. Beeber, PhD, RN

**Introduction/Background:** The Institute of Medicine (IOM) *Future of Nursing Report*<sup>1</sup> called for increasing the percentage of registered nurses (RNs) prepared with a baccalaureate degree to 80 percent by 2020, and increasing diversity in the RN workforce. An important approach that would help achieve both of these goals is to promote LPN (licensed practical nurse) to RN career transitions. A 2015 study<sup>2</sup> of LPN to RN transitions in North Carolina (NC) indicated that, between 2001 and 2013, 8.0 percent of LPNs transitioned to the RN role, and about 33% of those who made the transition were from underrepresented groups. The purpose of this study was to examine the career trajectories of LPNs in NC (2001-2013) and describe the factors that affect LPN to RN transitions. While LPNs may not make their first transition to the baccalaureate level, understanding the factors that are modifiable through policy interventions can inform strategies for achieving a more educated nursing workforce.

**Methods:** A retrospective cohort design was used to study LPN to RN professional transitions. We examined 2000-2013 data from the NC Health Professions Data System (HPDS) on the RN and LPN nursing workforce in NC, derived from annual licensure files provided by the NC Board of Nursing

**Findings:** Using logistic regression, predictors of LPN to RN transitions were identified. See below and Table 1.

- **Time of LPN licensure.** We defined four licensure groups: licensure between 1938 and 1981; between 1982 and 1995; between 1996 and 2004; and between 2005 and 2013. Compared to LPNs licensed from 1938 to 1981, LPNs licensed after 1982 were 7.44 to 21.2 times more likely to become licensed as a RN. Compared to LPNs licensed from 1982 to 1995, LPNs licensed from 1996 to 2004 were 2.85 times more likely to become licensed as a RN with 95% confidence interval (CI) 2.55-3.19 (not reported in Table 1).
- **Age at LPN licensure.** Four age groups were defined: licensure between ages 16-22; between ages 23-27; between ages 28-34; and between ages 35-68. Compared to LPNs aged 35-68 years, LPNs licensed before age 35 were 1.69 to 2.56 times more likely to become licensed as an RN.
- **Country of nursing education before LPN licensure.** We defined two categories for country of nursing education: in and outside of the US. Compared to LPNs educated outside of the US, LPNs educated in the US were 8.57 times more likely to become licensed as an RN.
- **LPN work setting.** We defined four LPN work settings: hospital inpatient, long term care, solo/group/outpatient and other. Compared to LPNs working in a solo/group/outpatient setting, LPNs in hospital inpatient settings were 3.54 times more likely to become licensed as an RN and LPNs in long term care settings were 1.56 times more likely to become licensed as a RN. Compared to LPNs working in long term care, LPNs in the hospital inpatient setting were 2.28 times more likely to become licensed as a RN with 95% CI 1.89-2.74 (not reported in Table 1).

### Conclusions and Policy Implications

- 1) Little is known about the factors that affect LPN to RN career transitions.
- 2) Characteristics of LPNs that predict LPN to RN transition are: LPN licensure from 1996-2013; licensure at a younger age; LPN education in the US; employment in a hospital setting; part-time employment; and specializing in medical/surgical nursing.
- 3) To encourage LPN to RN transitions, develop: resources about the nursing career ladder for LPN students; incentives for employers to foster LPN career development; curricula for LPNs to train at the associate degree and transition to the baccalaureate degree in nursing; consensus among national and local stakeholders to promote the value of LPNs who become RNs as a way of increasing diversity in the RN workforce.
- 4) Further research is needed to shed light on the barriers to and facilitators of LPNs-to-RN transitions to better understand the policy levers that would accelerate these transitions.

- **Employment status.** We defined two categories of working status: full time and part time nursing. Compared to LPNs who worked full time, LPNs working part time were 1.86 times more likely to become licensed as an RN.
- **Specialty of nursing practice.** We defined five LPN practice specialties: geriatrics, community-based, medical/surgical, paediatrics and other. Only one specialty, medical-surgical, significantly predicted LPN to RN transitions relative to LPNs with a geriatric specialty. Compared to LPNs working in all other settings. LPNs working in the medical/surgical specialty were 1.63 times more likely to become licensed as a RN with 95% CI 1.39-1.91 (not reported in Table 1).

The logistic regression analysis included several predictors that were ultimately excluded because including them did not improve the model, i.e., gender, race, highest nursing degree at transition, living in a rural or urban area, or in a NC Area Health Education Center (AHEC) region.

**Conclusions.** Several characteristics of LPNs at the time of their licensure were associated with greater likelihood of a LPN to RN transition, including LPN licensure between 1996-2013, especially between 1996 and 2004; licensure at a younger age; nursing education in the US; employment in a hospital setting; part-time employment; and medical/surgical nursing specialty.

**Policy Implications.** Our findings suggest factors that could be the target of policy interventions to increase the frequency of LPN to RN transitions. New and existing HRSA programs and resources could be targeted toward: (a) developing resources (e.g., website, printed materials) about the nursing career ladder and advancement opportunities that can be disseminated to educational programs and LPN students; (b) providing incentives for employers of LPNs, and particularly hospitals and long term care facilities to create employment arrangements that foster LPN career advancement (e.g., flexible staffing, reduced work time, retention programs targeting LPNs who transition, or tuition support); providing incentives for LPNs working in the medical-surgical specialty (e.g., loan repayment programs) that encourage LPNs to advance to become RNs; (c) developing resources that standardize curricula and other educational materials for LPNs to train at the associate degree and transition to the baccalaureate degree in nursing; (d) convening meetings of key national and local stakeholders to begin changing the mindset about LPN-to-RN transitions and promote the value of LPNs who become RNs as a way of increasing diversity in the RN workforce, expanding the pipeline of RNs who will provide care in local communities, and building local communities through the advancement of educational opportunities; (e) and offering online and other flexible learning opportunities for LPNs to remain employed and within their local communities while pursuing the RN degree.

**Table 1. Predictors of LPN to RN Transitions\***

Variable	Setting	Referent Group	Odds Ratio	Confidence Interval (95%)
Time of LPN licensure	1982-1995	1938-1981	7.44	5.90-9.38
	1996-2004		21.2	16.9-26.6
	2005-2013		16.9	13.4-21.4
Age at LPN licensure	16-22	35-68	2.56	2.23-2.95
	23-27		2.23	1.95-2.53
	28-34		1.69	1.48-1.93
Country of LPN education	US	Outside of US	8.57	5.19-14.2
Work setting	Other **	Solo/group or hospital outpatient	1.03	0.88-1.21
	Long term care		1.56	1.28-1.89
	Hospital inpatient		3.54	2.97-4.21
Employment status	Part time	Full time	1.86	1.67-2.06
Specialty	Community-based	Geriatrics	1.01	0.81-1.25
	Other		1.12	0.95-1.32
	Pediatrics		1.22	0.96-1.54
	Medical/Surgical		1.80	1.45-2.22

\* Odds ratios are adjusted for other predictors in the model. Significance is indicated by confidence intervals that do not contain the number 1.

\*\* Other = HMO/insurance company, home care/hospice, public clinic/health department, mental health facility, student health site, industry/manufacturing site, private duty, school of nursing, and other.

## References

1. Institute of Medicine (US). Committee on the Robert Wood Johnson Foundation Initiative on the Future of Nursing. (2011). *The future of nursing: Leading change, advancing health*. Washington, DC: National Academies Press.
2. Jones CB, Toles M, Knafel GJ, Beeber AS. (2015) *An Untapped Resource in the Nursing Workforce: Licensed Practical Nurses who Transition to Become Registered Nurses*. Unpublished manuscript.