

BACKGROUND

- We assess the growth of RNs and LPNs in ambulatory care, the proportion of nurses moving from acute to ambulatory care settings, and the characteristics associated with working in ambulatory care vs. other settings and with moving from acute to ambulatory care settings among North Carolina (NC) nurses between 2015-2017.

METHODS

- We used NC licensure data to conduct an analysis of actively practicing RNs and LPNs between 2015-2017.
- We assessed the percent growth of nurses employed in ambulatory care and hospital settings as well as the percent of nurses who changed employment settings from hospital to ambulatory care.
- We analyzed the degree to which the characteristics (Table 1) explained differences between RN and LPN employment in ambulatory vs other settings using logistic regression (Table 2). We also used logistic regression to examine the degree to which these characteristics were associated with nurses switching from hospital to ambulatory care settings vs remaining in hospitals with standard errors clustered at the county-level (Table 2).

RESULTS

- Between 2015-2017, RN employment in hospitals declined by 0.2% (LPN by 14%) and grew by 15% (LPN by 39%) in ambulatory care.
- 24.3% of RNs and 6.9% of LPNs who worked in ambulatory care in 2017 worked in hospitals in 2015.
- Ambulatory care RNs vs. other settings were more likely to be female, practice in a metro area, less likely to be a new-grad, be non-white, or have a doctorate or Masters. Ambulatory care LPNs vs. other settings were more likely to work in a metro area and less likely to be non-white. LPNs and RNs had increasing odds of working in ambulatory care in each year (Table 2).
- Nurses who switched from 2015 hospital to 2017 ambulatory care were more likely to work in a metro area than nurses who stayed in hospitals.

DISCUSSION

- Nursing education focuses heavily on acute care settings, but as care shifts towards ambulatory care, training must be updated accordingly.
- The roles and necessary competencies of nurses in ambulatory care should be explored to optimize the use of this workforce in these settings.
- It is unclear if this shift will lead to an imbalance in the supply and demand of nurses in acute care settings and future work may explore this.
- NSSRN data show similar trends nationally. Between 2008 to 2018, there was an increase in RNs in ambulatory care nationally from 7.5% to 15.6% and an increase in NC from 6.6% to 12.9%.
- We are updating analysis with 2018/19 NC licensure data– prelim trends similar

The Shift in Nursing Employment from Acute to Ambulatory Settings: Implications for Education, Regulation, and Practice

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There is a decline in RNs & LPNs in hospital and a growth in ambulatory care settings. Among RNs actively practicing between 2015-2017, 1/4th of 2017 ambulatory care RNs were employed in hospitals in 2015.

Table 1: Characteristics of LPNs & RNs in NC, 2015-2017

	Nurses in All Settings		Nurses in Ambulatory Care Setting	
	LPNs (N=54,575)	RNs (N=281,756)	LPNs (N=4392)	RNs (N=24,410)
Year Represented by the Data (%)				
2015	33.03	32.88	27.82	30.58
2016	33.31	33.33	32.83	33.27
2017	33.65	33.79	39.34	36.15
Age (mean STD)	45.79 (12.45)	45.21 (12.56)	45.40 (11.92)	47.92 (11.45)
Female (%)	93.98	92.32	94.81	95.63
Race (%)				
Caucasian	63.62	81.33	68.47	85.33
African American	29.49	11.68	24.04	9.86
American Indian Alaskan Native	1.83	0.92	1.43	0.54
Hispanic	1.72	1.47	2.60	1.16
Asian	1.05	2.94	0.77	1.81
Hawaiian Pacific Islander	0.08	0.10	0.07	0.11
Other	1.86	1.32	2.16	0.97
Missing	0.35	0.24	0.46	0.23
Settings (%)				
Other	24.18	16.07	-	-
Hospital	6.9	52.18	-	-
Ambulatory Care	8.05	8.66	-	-
Long Term Care	36.46	5.07	-	-
Home_hosp	12.08	6.63	-	-
Missing	12.34	11.38	-	-
Years in practice (current year-grad yr) (mean STD)	15.59 (12.82)	16.69 (12.49)	16.71 (12.67)	20.27 (12.04)
Highest Education (%)				
Doctorate	0.17	0.81	0.16	0.43
Masters	0.72	8.34	0.77	8.54
Baccalaureate	3.74	42.01	4.67	46.19
Associate	9.76	35.88	8.86	36.87
Diploma	41.24	5.19	40.35	7.51
LPC/LPA	38.96	0.12	43.99	0.10
Missing	5.42	7.65	1.21	0.35
New Grad (<2 yrs) (%)	8.63	7.64	1.09	0.57
Metro (%)	74.67	83.24	83.24	90.26
Average hours worked/week (mean STD)	37.84 (9.42)	36.75 (9.25)	39.26 (7.37)	36.631 (9.36)
Missing (%)	9.04	7.6	0	0

Table 2: Results from Logistic Regressions (Adjusted Odds Ratios & 95% CIs)

	2017 Ambulatory Care (1) vs. Other Settings (0)		Switching from 2015 hospital to 2017 ambulatory care (1) vs. remaining in hospital 2015-2017	
	RN (N=83,777)	LPN (N=15,730)	RN (N=38,310)	LPN (N=806)
Age	0.997 [0.994,1.000]	0.972*** [0.964,0.979]	0.995 [0.987,1.003]	0.992 [0.966,1.019]
Female	1.738*** [1.565,1.931]	1.19 [0.947,1.495]	1.457*** [1.167,1.820]	0.906 [0.599,1.370]
Non-Caucasian Race	0.800*** [0.751,0.851]	0.724*** [0.647,0.810]	0.891 [0.736,1.078]	0.867 [0.590,1.274]
Years in Practice	1.019*** [1.015,1.022]	1.017*** [1.010,1.024]	0.996 [0.987,1.004]	0.974* [0.953,0.996]
Metro	1.913*** [1.777,2.059]	1.680*** [1.471,1.919]	1.345** [1.118,1.618]	2.163* [1.145,4.087]
New Grad (<2 yrs)	0.412*** [0.308,0.551]	1 [1.000,1.000]	0.798 [0.583,1.093]	1 [1.000,1.000]
Average hours worked/week	1.007*** [1.004,1.009]	1.015*** [1.010,1.020]	1.002 [0.996,1.008]	1.006 [0.984,1.028]
Education				
Doctorate	0.291*** [0.204,0.415]	1.424 [0.500,4.059]	0.438 [0.170,1.123]	- -
Masters	0.795*** [0.731,0.866]	0.921 [0.493,1.720]	0.979 [0.866,1.107]	1.509 [0.443,5.142]
Baccalaureate	ref ref	1.156 [0.895,1.493]	ref ref	0.462 [0.154,1.386]
Associate	0.995 [0.945,1.047]	0.85 [0.706,1.023]	1.006 [0.903,1.121]	0.685 [0.364,1.290]
Diploma	1.049 [0.949,1.159]	0.892* [0.798,0.998]	1.017 [0.846,1.224]	1.031 [0.667,1.595]
Vocational/Practical	1.394 [0.168,11.542]	ref ref	1 [1.000,1.000]	ref ref