

The Nursing Workforce in North Carolina: Academic Progression and New Roles in a Transformed System

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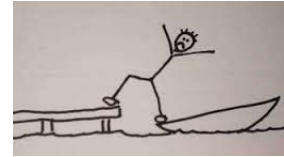
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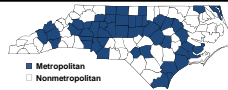
Presentation Overview: In words and a picture

We will use North Carolina to
frame data and information
regarding:

- Current nursing workforce
- “Education mobility” nurses — those who entered workforce with ADN and have gone on to BSN or higher
- Future nursing workforce in a transformed system

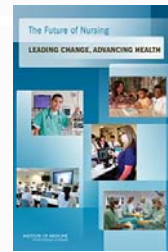


Select Stats North Carolina, 2012



	North Carolina	Rural Counties (n=54)	Urban Counties (n=46)
Total Population	9,765,229	2,208,796 (22%)	7,556,433 (78%)
Non-Federal Physicians	21,788	3,015	18,773
Per 10,000 pop	22.3	13.6	24.8
Primary Care Physicians	7,402	1,300	6,102
Per 10,000 pop	7.6	5.9	8.1
Nurse Practitioners	4,244	697	3,547
Physician Assistants	4,044	671	3,373
Dentists	4,401	669	3,732
Dental Hygienists	5,490	1,030	4,460
Registered Nurses	97,222	16,438 (17%)	80,784 (83%)
Pharmacists	9,822	1,760	8,062
Physical Therapists	5,340	758	4,582
Occupational Therapists	2,773	350	2,423

Data include active, in-state health professionals licensed in North Carolina as of October 31, 2012. Physicians are non-federal, non-resident-in-training. Primary care includes family practice, general practice, internal medicine, geriatrics, and OB/GYN.



“Recommendation 4:

Increase the proportion of nurses with a baccalaureate degree to 80 percent by 2020”

At first, recommendation made us nervous

Why?

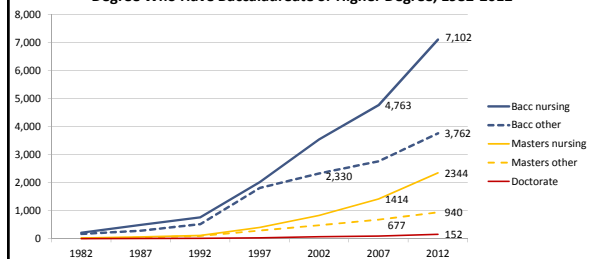
A 2008 Sheps Center study of Associate Degree Nursing programs in NC showed that ADNs were more likely than their BSN counterparts to

1. practice in rural/underserved areas
2. practice in higher-need settings, like home care/ hospice and long-term care
3. Practice in higher-need specialties, like geriatrics

Source: Fraher E, Bellky D, Carpenter J, Gaul K. A Study of Associate Degree Nursing Program Success: Evidence from the 2002 Census. NC Health Professions Data System. Cecil G. Sheps Center for Health Services Research. October 2008. http://www.shepscenter.org/pdf/ncprofessions/NCCES_ADN_Report.pdf

Number of nurses with ADN as entry degree and baccalaureate+ as highest degree has increased dramatically

Number of North Carolina Nurses Entering with ADN as Entry Degree Who Have Baccalaureate or Higher Degree, 1982-2012



Note: Missing data ranged from 0.5% in 1982 to 11.5% in 2007. Source: North Carolina Health Professions Data System, with data based from the NC Board of Nursing, 2012. Prepared by Program on Health Workforce Research and Policy, Cecil G. Sheps Center for Health Services Research, UNC-CH.

So we did another study

Our research question:

“Do nurses who entered the workforce with an ADN and have a baccalaureate or higher degree *in nursing* behave more like ADN’s or baccalaureate+ nurses?”



Our sample

Our analysis of the 2012 NC RN licensure file compares:



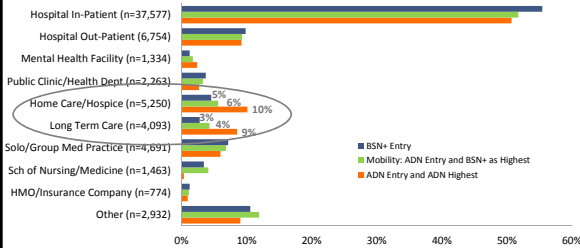
N = 74,763 (76.9% of total RNs)

In 2012, 14,300 nurses had ADN for *entry degree* and baccalaureate or higher as *highest degree*. Our sample
 • Includes 9,516 nurses entered with ADN and have baccalaureate or higher *in nursing* as highest degree—the “education mobility” nurses
 • Excludes 4,784 nurses entered with ADN and have baccalaureate or higher *outside nursing*—the “career mobility” nurses



Mobility nurses less likely to practice in home care/hospice and long-term care than ADN nurses without additional education

North Carolina Nursing Workforce by Employment Setting and Degree, 2012



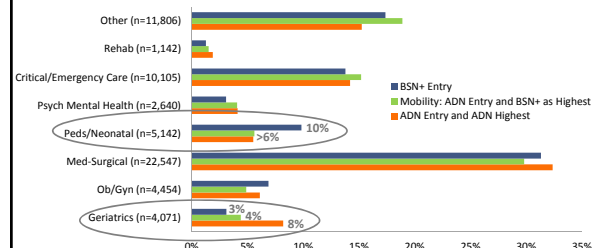
Note: Employment setting was missing for 3,420 RNs.

Note: Data include RNs who were actively practicing in North Carolina as of October 31, 2012. Source: North Carolina Health Professions Data System, with data derived from the NC Board of Nursing, 2012. Produced by Program on Health Workforce Research and Policy, Cecil G. Stegeman Center for Health Services Research, UNC-CH.



Mobility nurses less likely to practice in geriatrics than ADN nurses without additional education. Nurses with BSN+ at entry more likely to practice in pediatrics

North Carolina Nursing Workforce by Practice Area and Degree, 2012



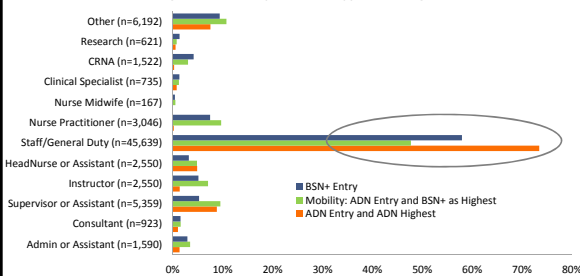
Note: Specialty was missing for 3,428 RNs.

Note: Data include RNs who were actively practicing in North Carolina as of October 31, 2012. Source: North Carolina Health Professions Data System, with data derived from the NC Board of Nursing, 2012. Produced by Program on Health Workforce Research and Policy, Cecil G. Stegeman Center for Health Services Research, UNC-CH.



Mobility nurses less likely to practice as staff/general duty nurses

NC Nursing Workforce by Position Type and Degree, 2012



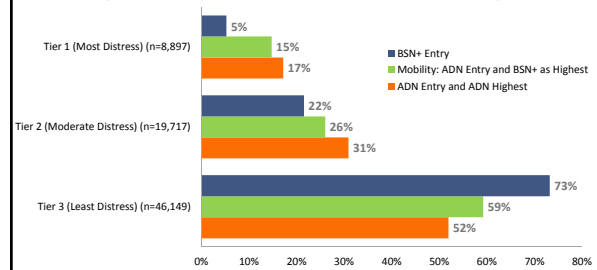
Note: Position type was missing for 3,417 RNs.

Note: Data include RNs who were actively practicing in North Carolina as of October 31, 2012. Source: North Carolina Health Professions Data System, with data derived from the NC Board of Nursing, 2012. Produced by Program on Health Workforce Research and Policy, Cecil G. Stegeman Center for Health Services Research, UNC-CH.



Mobility nurses 3 times more likely to practice in NC's most distressed counties compared to BSN entry nurses

NC Nursing Workforce by Economic Tier of Practice Location and Degree, 2012



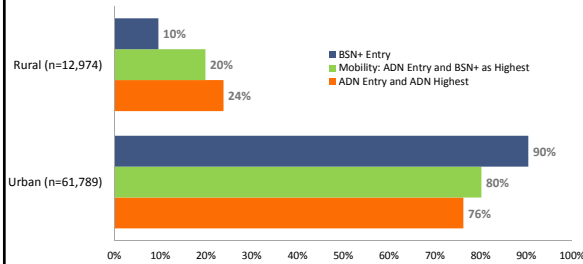
Economic tier designations are from the North Carolina Department of Commerce. <http://www.nccommerce.com/research/publications/incentive-reports/economy-tier-designations>

Note: Data include RNs who were actively practicing in North Carolina as of October 31, 2012. Source: North Carolina Health Professions Data System, with data derived from the NC Board of Nursing, 2012. Produced by Program on Health Workforce Research and Policy, Cecil G. Stegeman Center for Health Services Research, UNC-CH.



Mobility nurses twice as likely as BSN+ nurses to practice in rural counties

North Carolina Nursing Workforce by Rural/Urban Setting and Degree, 2012



Rural source: US Census Bureau and Office of Management and Budget, March 2013. "Core Based Statistical Area" (CBSA) is the OMB's collective term for Metropolitan and Micropolitan Statistical areas. Home to nonmetropolitan counties include micropolitan and counties outside of CBSA.
Note: Data include RNs who were actively practicing in North Carolina as of October 31, 2012. Source: North Carolina Health Professions Data System, with data derived from the NC Board of Nursing, 2012. Prepared by: Program on Health Workforce Research and Policy, Carol E. Shea Center for Health Services Research, UNC-Ch.

So ... do mobility nurses behave more like ADNs or baccalaureate+ nurses? It depends

After seeking additional education, mobility nurses behave:

More like BSN+ nurses in terms of specialty and setting

- Less likely to practice in home care, hospice, long-term care and geriatrics

More like ADN nurses in terms of geographic dispersion.

Compared to BSN entry nurses:

- Twice as likely to practice in rural
- Three times more likely to practice in NC's Tier 1 counties

Like neither group in terms of job title

- Less likely to be in staff/general duty positions

Implications for education

- Need more rotations outside of hospital—in home health, long-term care, hospice, public health and other community-based settings
- Continue to diffuse BSN+ education out to ADNs in rural and underserved areas
- There are over 8,000 ADNs practicing in rural counties who have not pursued additional education in nursing
- But it's not just a numbers game.....we need to think about new roles for nurses

The future nursing workforce: New roles in a transformed health system

Let 1,000 flowers bloom: ongoing experiments in health system transformation

- Growing number of patient centered medical homes, accountable care organizations and integrated delivery systems
- CMS actively funding demonstration projects
- Secretary Burwell recently announced 50% of Medicare payments tied to value by 2018



New models of care: key characteristics

Goal: provide patients with more comprehensive, accessible, coordinated and high quality care at lower costs

- Payment based on value, not volume (accountability)
- Emphasis on primary, preventive and "upstream" care
- Care is coordinated between:
 - medical sub-specialties, home health agencies and nursing homes
 - health care system and community-based social services (social determinants of health)
- EHRs used to monitor patient & population health—increased use of data for risk-stratification and hot spotting
- Interventions focused on both patient- and population-level

Nursing in a Transformed Health Care System: New Roles, New Rules

“What will it take to optimize the contributions of nurses in these changing systems?”

- **Redesign** the nursing curriculum to impart new competencies;
- **Retrain** existing nurses to impart new skills and knowledge;
- **Revamp** licensing examination and requirements to reflect the new curriculum; and
- **Restructure** the state regulatory system to allow flexible deployment of the nurse workforce.”



http://ldi.upenn.edu/uploads/media_items/inqri-ldi-brief-nursing.original.pdf

Quoted from Janet Welles, MPH, Penn LDI Voices Blog, “Re-Nurses”, June 25, 2015. <http://ldi.upenn.edu/voices/2015/06/25/re-nurses>

Citation: Fraher E, Spetz J, Naylor M. Nursing in a Transformed Health Care System: New Roles, New Rules. LDI/INQRI Research Brief. June 2015.

LDI/INQRI Research Brief. June 2015. http://ldi.upenn.edu/uploads/media_items/inqri-ldi-brief-nursing.original.pdf

How do nurses fit in new models of care?

- PCMHs and ACOs emphasize care coordination, population health management, patient education, health coaching, data analytics, patient engagement, quality improvement, etc.
- Moving more toward ambulatory settings and community care
- New job titles and roles emerging
- “Boundary Spanners”
- Requires application of skills in new ways and development of new skills

Sources: Bodenheimer T, Berry-Millett R. Care management of patients with complex health care needs. Princeton, NJ: Robert Wood Johnson Foundation; 2009.

New and evolving role areas

- Population health
- Complex older adults and family caregivers
- Care coordination and transitional care
- Use of data, evidence and other performance improvement skills
- Interprofessional collaboration



Source: Fraher E, Spetz J, Naylor M. Nursing in a Transformed Health Care System: New Roles, New Rules. LDI/INQRI Research Brief. June 2015.

But how do we redesign structures to support these roles? → Education

- Must redesign education system so nurses can flexibly gain new skills and competencies
- Retrain and upgrade skills of the 2.9 million nurses *already* in the system – **they are the ones who will transform care**
- Training must be convenient – timing, location, & financial incentives
- Need to prepare faculty to teach new roles and functions
- Clinical rotations need to include “purposeful exposure” to high-performing teams and ambulatory settings

Source: Fraher E, Spetz J, Naylor M. Nursing in a Transformed Health Care System: New Roles, New Rules. LDI/INQRI Research Brief. June 2015. LeDain et al. The Emerging Primary Care Workforce: Preliminary Observations from the Primary Care Team Learning from Effective Ambulatory Practice Project. Academic Medicine. 2013; 88(12): 18-30-2014.

But how do we redesign structures to support these roles? → Regulation

To create a more dynamic regulatory system, we need:

- To develop evidence to support regulatory changes, especially for new roles
- Better evaluation of pilot workforce interventions to understand if interventions improve health, lower costs and enhance satisfaction
- To establish a national clearinghouse to provide up-to-date and reliable information about scope of practice changes in other states
- Remove regulatory barriers to let nurses utilize skills to max benefit of patients

Source: Dwyer C, Moore J, Langstaff M. It is time to restructure health professions scope of practice regulations to remove barriers to care. Health Aff (Millwood). 2015 Nov; 34(11):2015-2016. Fraher E, Spetz J, Naylor M. Nursing in a Transformed Health Care System: New Roles, New Rules. LDI/INQRI Research Brief. June 2015.

But how do we redesign structures to support these roles? → Policy

- **Insurance reimbursement rules**
Current system creates inefficiencies and hinders nurses from delivering optimal services; Shift toward value-based care will likely support efforts to maximize nursing contributions to care
- **Regulation of entry-level nursing education**
Modify state licensure board rules governing pre-licensure programs to ensure grads have new skills and competencies needed; adjust clinical training requirements to include more ambulatory experiences
- **NCLEX**
Curricula designed to ensure graduates can pass NCLEX; If NCLEX changes to reflect new roles, curricula will change to keep up
- **Federal and state funding agencies**
Funding can drive innovation and encourage transformation

Source: Fraher E, Spetz J, Naylor M. Nursing in a Transformed Health Care System: New Roles, New Rules. LDI/INQRI Research Brief. June 2015.

Who is going to pay for all this retooling we need to do?

- Adequate and sustainable payment models to retool and redeploy the workforce are lacking
- Many workforce innovations are supported by one-time funds. If payment models don't change rapidly enough, will these interventions be sustainable?
- 1,000 flowers are blooming but are adequate dollars available to conduct research and evaluations necessary to develop evidence base needed to support workforce redesign?

Why the nursing workforce is critical to health system transformation

- With nearly 3 million nurses in active practice, nursing is **by far** largest licensed health profession (*about four times as many nurses as physicians*)
- Nursing care linked to quality and satisfaction measures that will increasingly be tied to value-based payments
- Nurses provide whole-person care across health and community-based settings
- Nurses are the ultimate "flexible" workforce taking on new roles in transformed health system

Contact info

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Program on Health Workforce Research and Policy
<http://www.healthworkforce.unc.edu>

Extra Slides

Education Highest Degree of North Carolina Nursing Workforce: 2012

Highest Degree Held	Number	Percent
Unknown	8,897	9.2%
Diploma	6,752	6.9%
Associate Degree	35,032	36.0%
Baccalaureate in Nursing	29,767	30.6%
Baccalaureate in Other	4,831	5.0%
Masters in Nursing	8,508	8.8%
Masters in Other	2,726	2.8%
Doctorate in Nursing	359	0.4%
Doctorate in Other	350	0.4%
Total	97,222	100.0%

There were 8,897 RNs missing highest degree.

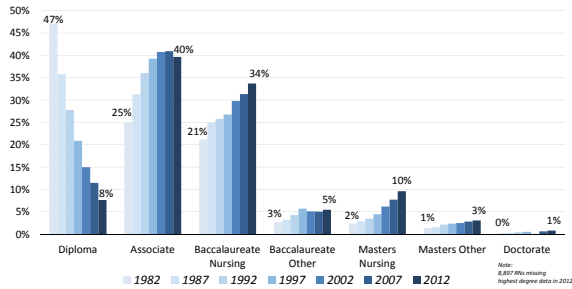
Asians, African Americans, males are more likely to have baccalaureate or higher

- The average age of ADN and BSN or higher nurses is the same at **44 years** of age.
- **62% of male RNs vs 57% of female RNs** have BSN or higher*
- **86% of Asian RNs and 65% of African American RNs** have BSN or higher**

*Out of 6,216 male RNs and 75,357 female RNs.
**Out of 2,143 Asian RNs and 9,046 African American RNs. Race was missing for 150 RNs.

Highest Degree of North Carolina Nursing Workforce: 1982-2012

North Carolina Nursing Workforce by Highest Degree, 1982-2012



Note: Data include RNs who were actively practicing in North Carolina as of October 31 of their respective year. Source: North Carolina Health Professions Data System, with data derived from the NC Council of Nursing, 2012. Prepared by Program on Health Workforce Research and Policy, Carol G. Chesney Center for Health Workforce Research, UNC-CH.

Boundary spanning roles growing quickly

- Increasing number of staff focused on roles that shift focus from visit-based to population-based strategies
- Two examples:

Panel Managers

Assume responsibility for patients between visits. Use EHRs and patient registries to identify and contact patients with unmet care needs. Often medical assistants but can be nurses or other staff

Health Coaches

Improve patient knowledge about disease or medication and promote healthy behaviors. May be medical assistants, nurses, health educators, social workers, community health workers, pharmacists or other staff