The Nursing Workforce in North Carolina: Challenges and Opportunities

Erin Fraher, PhD MPP, Katie Gaul, MA & Erica Richman, PhD MSW
Program on Health Workforce Research & Policy
Cecil G. Sheps Center for Health Services Research, UNC-CH

Using Our Voice to Build Better Systems
Management & Labor Convening on Building a Skilled Workforce for Quality Healthcare

Washington, DC
July 9, 2015

This work is supported in part with funding from the North Carolina AHEC Program, the Robert Wood Johnson Foundation and HRSA.

UNC THE CECIL G. SHEPS CENTER FOR HEALTH SERVICES RESEARCH

Presentation Overview: In words and a picture

We will use North Carolina to frame challenges and opportunities 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
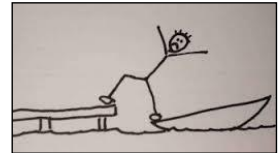
Before we launch into the data, a brief introduction....The North Carolina Health Professions Data System (HPDS)

Mission: *to provide timely, objective data and analysis to inform health workforce policy in North Carolina and the United States*

- Cecil G. Sheps Center for Health Services Research at UNC-CH
- In collaboration with NC AHEC & professional licensing boards
- Independent of government and health care professionals; bringing rigor and objectivity
- 35 years of continuous licensure data on 19 health professions from 12 boards
- Data are provided voluntarily by the boards—there is no legislation that requires this, there is no appropriation
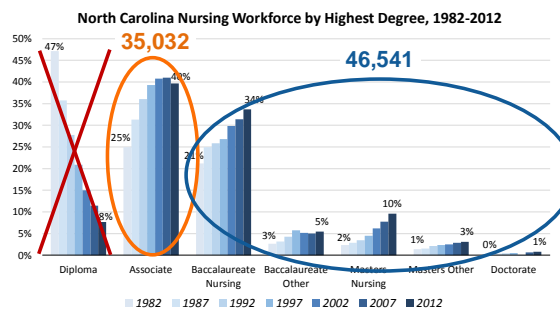

Now let's dive into the data

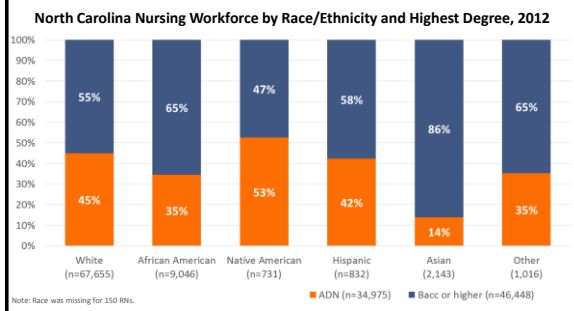## How do ADNs differ from BSN+ in NC?

Image from: http://rlasharespace.pbworks.com/w/page/48788069/5612ft%20%20Norman%20Rockwell%20Story

---

Highest Degree of North Carolina Nursing Workforce: 1982-2012

North Carolina Nursing Workforce by Highest Degree, 1982-2012

35,032   46,541

Categories: Diploma, Associate, Baccalaureate Nursing, Baccalaureate Other, Masters Nursing, Masters Other, Doctorate

Values shown: 47%, 35%, 8%, 25%, 40%, 21%, 34%, 3%, 5%, 2%, 10%, 1%, 3%, 0%, 1%

Legend: 1982, 1987, 1992, 1997, 2002, 2007, 2012

Note: Data include RNs who were actively practicing in North Carolina as of October 31 of the respective year. **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. Sheps Center for Health Services Research, UNC-CH.

Asians, African Americans more likely to have baccalaureate or higher

North Carolina Nursing Workforce by Race/Ethnicity and Highest Degree, 2012

	White (n=67,655)	African American (n=9,046)	Native American (n=731)	Hispanic (n=832)	Asian (2,143)	Other (1,016)
Bacc or higher	55%	65%	47%	58%	86%	65%
ADN	45%	35%	53%	42%	14%	35%

Note: Race was missing for 150 RNs.

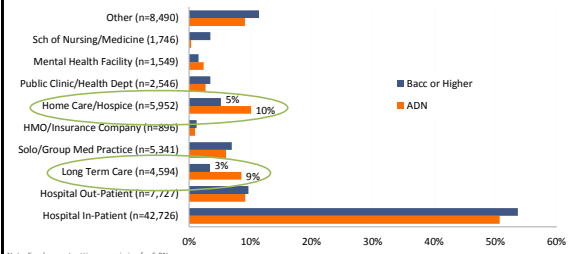Legend: ADN (n=34,975), Bacc or higher (n=46,448)

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. Sheps Center for Health Services Research, UNC-CH.

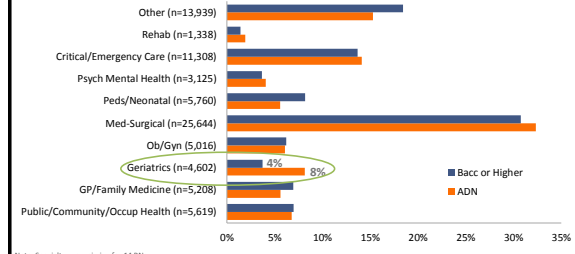## Most nurses work in hospitals but ADN nurses more likely to work in home care/hospice and long-term care

North Carolina Nursing Workforce by Employment Setting and Highest Degree, 2012

Legend: Bacc or Higher, ADN

Employment settings: Other (n=8,490); Sch of Nursing/Medicine (1,746); Mental Health Facility (1,549); Public Clinic/Health Dept (2,546); Home Care/Hospice (n=5,952) — 5%, 10%; HMO/Insurance Company (n=896); Solo/Group Med Practice (n=5,341); Long Term Care (4,594) — 3%, 9%; Hospital Out-Patient (n=7,727); Hospital In-Patient (n=42,726)

Note: Employment setting was missing for 6 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. Sheps Center for Health Services Research, UNC-CH.

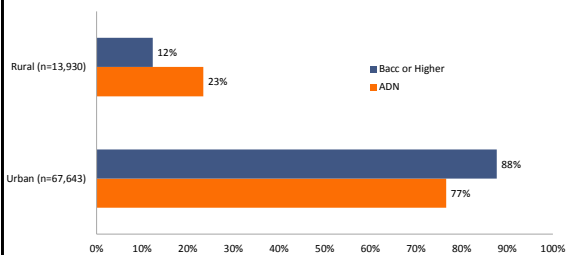## Similar distributions by clinical practice area but ADN nurses more likely to work in geriatrics

North Carolina Nursing Workforce by Clinical Practice Area and Highest Degree, 2012

Legend: Bacc or Higher, ADN

Clinical practice areas: Other (n=13,939); Rehab (n=1,338); Critical/Emergency Care (n=11,308); Psych Mental Health (n=3,125); Peds/Neonatal (n=5,760); Med-Surgical (n=25,644); Ob/Gyn (5,016); Geriatrics (n=4,602) — 4%, 8%; GP/Family Medicine (n=5,208); Public/Community/Occup Health (n=5,619)

Note: Specialty was missing for 14 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. Sheps Center for Health Services Research, UNC-CH.

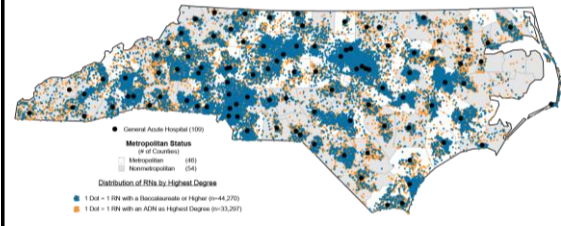## ADN nurses nearly twice as likely to work in rural counties

North Carolina Nursing Workforce by Rural Status and Highest Degree, 2012

Legend: Bacc or Higher, ADN

Rural (n=13,930): 12%, 23%
Urban (n=67,643): 88%, 77%

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. Here, nonmetropolitan counties include micropolitan and counties outside of CBSAs.

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. Sheps Center for Health Services Research, UNC-CH.

ADNs are better distributed across state while baccalaureate+ nurses cluster around hospitals

Distribution of ADNs and Baccalaureate or Higher RNs Actively Practicing in North Carolina in 2012
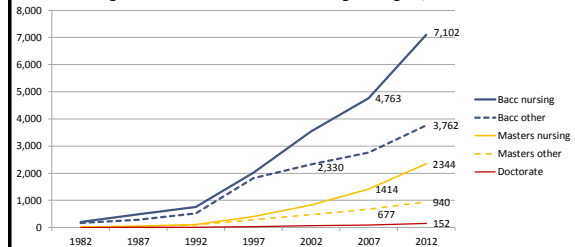

General Acute Hospital (109)

Metropolitan Status (# of Counties): Metropolitan (46); Nonmetropolitan (54)

Distribution of RNs by Highest Degree: 1 Dot = 1 RN with a Baccalaureate or Higher (n=44,270); 1 Dot = 1 RN with an ADN as Highest Degree (n=33,297)

Note: Dots are scattered randomly within ZIP code areas. Data include RNs who were actively practicing in North Carolina who have an ADN as their highest degree or who have a BSN or higher as their highest degree. Data exclude 377 RNs with inadequate zip codes for mapping purposes. Source: North Carolina Health Professions Data System, with data derived from the North Carolina Board of Nursing, 2012. Hospital locations derived from NC DHHS as of January 1, 2015 at http://www.ncdhhs.gov/dhsr/data/hlist.pdf and NCHA member hospital list at https://www.ncha.org/about/member-hospitals, retrieved 1/7/14. Produced by: Program on Health Workforce Research and Policy, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

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 Statistical areas. Here, nonmetropolitan counties include micropolitan and counties outside of CBSAs.

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

UNC — THE CECIL G. SHEPS CENTER FOR HEALTH SERVICES RESEARCH

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

Legend: Bacc nursing; Bacc other; Masters nursing; Masters other; Doctorate

Values: 7,102; 4,763; 3,762; 2,330; 2344; 1414; 940; 677; 152

Note: Missing data ranged from 0.5% in 1982 to 11.5% in 2007.

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. Sheps Center for Health Services Research, UNC-CH.

What might our workforce look like if all ADN nurses went on to higher nursing education?

In 2012, 14,300 nurses had ADN for entry degree and baccalaureate or higher as highest degree:

- 9,516 nurses entered with ADN and have baccalaureate or higher *in nursing* as highest degree—the "education mobility" nurses
- 4,784 nurses entered with ADN and have baccalaureate or higher *outside nursing*—the "career mobility" nurses

Our analysis compares:

34,058 ADN
Potential Mobility: RNs who entered with ADN and still have ADN as highest degree

9,516 ADN to BSN+
Mobility: Nurses who went on to pursue additional nursing education

31,189 BSN+ at Entry
Already BSN+: Nurses who entered with a BSN (or higher)

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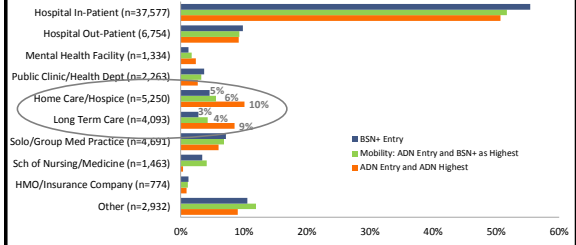
Mobility nurses less likely to practice in geriatrics than ADN nurses without additional education. Nurses with BSN+ at entry more likely to practice in pediatrics

North Carolina Nursing Workforce by Practice Area and Degree, 2012
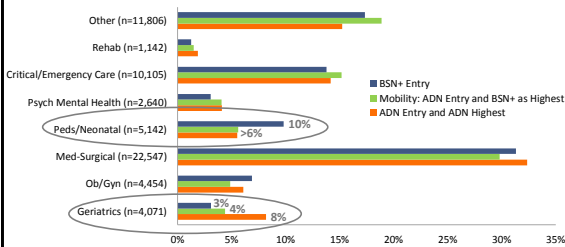
Mobility nurses less likely to practice as staff/general duty nurses

NC Nursing Workforce by Position Type and Degree, 2012
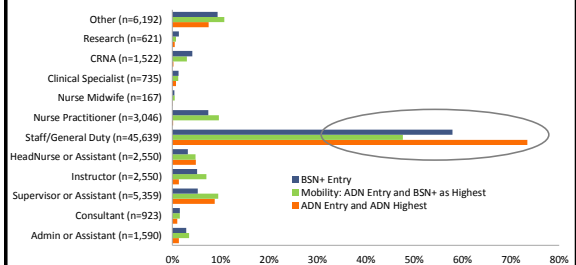
Mobility nurses twice as likely as BSN+ nurses to practice in rural counties

North Carolina Nursing Workforce by Rural/Urban Setting and Degree, 2012
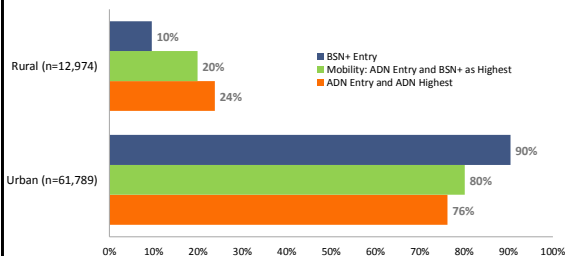
So … do mobility nurses behave more like ADNs or baccalaureate+ nurses? It depends

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 counties

Like neither group in terms of job title
- Less likely to be in staff/general duty positions

3

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

UNC
THE CECIL G. SHEPS CENTER
FOR HEALTH SERVICES RESEARCH

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

UNC

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

UNC

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."*

-Quoted from Janet Weiner, MPH. Penn LDI Voices Blog, "Re: Nurses". June 25, 2015. http://ldi.upenn.edu/voices/2015/06/25/re-nurses

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

Citation: Fraher E, Spetz J, Naylor M. Nursing in a Transformed Health Care System: New Roles, New Rules. LDI/INQRI Research Brief. June 2015. http://ldi.upenn.edu/uploads/media_items/inqri-ldi-brief-nursing.original.pdf.

UNC

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.

UNC

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

UNC

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

---

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

---

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

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

- 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

Erin Fraher
erin_fraher@unc.edu
(919) 966-5012

Erica Richman
elr@email.unc.edu
(919) 966-7737

Katie Gaul
k_gaul@unc.edu
(919) 966-6529

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

UNC
THE CECIL G. SHEPS CENTER
FOR HEALTH SERVICES RESEARCH