The State of Allied Health in North Carolina: From White Water Rafting to Ice Hockey

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with Meredith Kimball, Katie Gaul, and Jessica Carpenter Lyons
North Carolina Health Professions Data System

Presentation to the Council for Allied Health
May 18, 2011
Presentation Overview

North Carolina’s allied health workforce planning efforts

- Supply data
- Demand data
- Linking allied health workforce shortages to economic development efforts
- Allied health workforce planning in the New World of Reform
Allied Health Workforce Planning and Ice Hockey

“I skate to where the puck is going to be, not to where it has been.” —Wayne Gretsky

….but how do we know where the puck is going to be?
It All Starts with Robust Data from Multiple Sources

• Supply side data on practitioners: licensure, employment, educational, professional data

• Demand side data from employers: vacancies by employment setting, specialty and geography
Supply Side Data
The Allied Health Data Challenge

Validity, Reliability of Data, a *Spectrum*

- **Low**: Optional professional certification
  - Medical Assistants
- **Medium**: Mix of licensed and certified professionals
  - Speech-Language Pathology
- **High**: Licensed professionals
  - Physical Therapy
Supply Side Data: The North Carolina Health Professions Data System (HPDS)

**Mission:** To provide timely, objective and evidence-based analyses to inform health workforce decisions

- ~30 years of continuous, complete licensure (*not survey*) data

- A collaboration between AHEC, the University of NC and the health professions licensing boards

- Data are provided *voluntarily* by the boards—there is no legislation that requires this, there is no appropriation
Annual Licensure Data from 1979-2010 Allow Longitudinal and Interprofessional Comparisons

- Physicians (MDs and DOs)
- Physician Assistants
- Dentists
- Dental Hygienists
- Optometrists
- Pharmacists
- Physical Therapists
- Physical Therapist Assistants
- Registered Nurses
- Nurse Practitioners
- Certified Nurse Midwives (1985)
- Licensed Practical Nurses
- Chiropractors
- Podiatrists
- Psychologists
- Psychological Associates
- Occupational Therapists (2006)
- Occupational Therapy Assistants (2006)

*Have published data since 1979 for all professions unless otherwise noted in parentheses.
Tracking Supply: Growth in Physical Therapists per 10,000 Population

Physical Therapists per 10,000 Population
North Carolina, 1979-2009

Sources: NC Health Professions Data System with data derived from the North Carolina Board of Physical Therapy Examiners.
Tracking Interprofessional Supply Trends

Growth in Health Professionals per 10,000 Population Since 1981
North Carolina

PTs and PTAs grew much more rapidly relative to docs, nurses and pharmacists

Sources: NC Health Professions Data System with data derived from the North Carolina Boards of Physical Therapy Examiners, Medicine, Nursing and Pharmacy.
Tracking Distribution: Problematic in North Carolina’s Most Underserved Areas

Physical Therapists per 10,000 Population by Persistent Health Professional Shortage Area (PHPSA) Status
North Carolina, 1979 to 2009

Sources: NC Health Professions Data System with data derived from the North Carolina Board of Physical Therapy Examiners and the Bureau of Health Professions, HRSA.
Efforts to Expand Loan Repayment Nationally are “Dead”

H.R. 1426: Physical Therapist Student Loan Repayment Eligibility Act of 2011

Related Legislation

Other Legislation with the Same Title

The list below shows legislation in this and previous sessions of Congress that had the same title as this bill. Often bills are incorporated into other omnibus bills, and you may be able to track the status of provisions of this bill by looking for an omnibus bill below. Note that bills may have multiple titles.

111th Congress: S. 1057  Dead
111th Congress: H.R. 988  Dead
110th Congress: S. 2485  Dead
110th Congress: H.R. 1134  Dead
109th Congress: H.R. 5134  Dead

Source: http://www.govtrack.us/congress/bill.xpd?bill=h112-1426&tab=related
Tracking Diversity: Allied Health Professions Not as Diverse as North Carolina’s Population

Sources: NC Health Professions Data System with data derived from the following boards: NC State Board of Dental Examiners, NC Medical Board, NC Board of Physician Therapy Examiners, NC Respiratory Care Board and he NC Board of Occupational Therapy. Population estimates from the U.S. Census Bureau: State and County QuickFacts. Missing race data were excluded from this analysis. Accessed from: http://quickfacts.census.gov/qfd/states/37000.html.
Demand Side Data
Demand Side Data: Allied Health Job Vacancy Tracking Reports

**Purpose:** Estimate workforce demand for selected allied health professions

**Method:** Monitor weekly job listings in newspaper and online sources

Most recent report is hot off the press

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Current funding provided by the North Carolina Department of Commerce, the North Carolina Health and Wellness Trust Fund, and the Florence Rogers Charitable Trust. Previous funding provided the Duke Endowment and the NC AHEC Program.
Allied Health Vacancy Tracking Report: Thanks to our Sponsors

• Funders:
  – North Carolina Health & Wellness Trust
  – Department of Commerce – Division of Workforce Development
  – Florence Rogers Charitable Trust

• Investigators:
  – Council for Allied Health in North Carolina
  – Cecil G. Sheps Center for Health Services Research
Methodology
(the boring stuff academics go on about)

- Council members surveyed in September 2010 to guide selection of professions
- Final list included 10 professions
- Job advertisements collected from online and print sources over 10-week span (September 19 – November 28, 2010)
- Vacancy information analyzed to determine overall and regional demand

Sources: NC Health Professions Data System Allied Health Job Vacancy Tracking Project with funding provided by the North Carolina Department of Commerce, the North Carolina Health and Wellness Trust Fund and the Florence Rogers Charitable Trust.
Introducing the 10 Professions Monitored

<table>
<thead>
<tr>
<th>Allied Health Professions Monitored</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Medical Services</td>
</tr>
<tr>
<td>Health Information Management/Technology</td>
</tr>
<tr>
<td>Imaging (PET, MRI, CT)</td>
</tr>
<tr>
<td>Occupational Therapy Assistants</td>
</tr>
<tr>
<td>Occupational Therapists</td>
</tr>
<tr>
<td>Physical Therapists</td>
</tr>
<tr>
<td>Physical Therapist Assistants</td>
</tr>
<tr>
<td>Respiratory Therapists</td>
</tr>
<tr>
<td>Speech-Language Pathologists</td>
</tr>
</tbody>
</table>

Sources: NC Health Professions Data System Allied Health Job Vacancy Tracking Project with funding provided by the North Carolina Department of Commerce, the North Carolina Health and Wellness Trust Fund and the Florence Rogers Charitable Trust.
## Online and Newspaper Sources Monitored

### Online Sources
- Advance for Healthcare Careers
- American Speech-Language Hearing Association
- Carolina Health Care
- Duke Health
- Mission Hospital
- NC Occupational Therapy Association
- NC Physical Therapy Association
- NC Speech Hearing & Language Association
- North Carolina Public Schools Application System
- Novant Health
- Rex Health
- UNC Health Care
- University Health Systems of Eastern Carolina

### Newspapers
- Asheville Citizen Times
- Charlotte Observer
- Fayetteville Observer
- Greensboro News & Record
- Raleigh News & Observer
- Rocky Mount Telegram
- The Daily Reflector
- Wilmington Star News
- Wilson Daily Times
- Winston Salem Journal

Sources: NC Health Professions Data System Allied Health Job Vacancy Tracking Project with funding provided by the North Carolina Department of Commerce, the North Carolina Health and Wellness Trust Fund and the Florence Rogers Charitable Trust.
### Results: High Demand for Therapy Professions and Assistants

<table>
<thead>
<tr>
<th>Rank</th>
<th>Profession</th>
<th>Number of Positions</th>
<th>Workforce Size</th>
<th>Vacancy Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Occupational Therapy Assistant</td>
<td>121</td>
<td>900</td>
<td>13.4</td>
</tr>
<tr>
<td>2</td>
<td>Physical Therapy Assistant</td>
<td>274</td>
<td>2,150</td>
<td>12.7</td>
</tr>
<tr>
<td>3</td>
<td>Physical Therapist</td>
<td>523</td>
<td>4,340</td>
<td>12.1</td>
</tr>
<tr>
<td>4</td>
<td>Occupational Therapist</td>
<td>214</td>
<td>2,730</td>
<td>7.8</td>
</tr>
<tr>
<td>5</td>
<td>Health Information Management</td>
<td>152</td>
<td>5,130</td>
<td>3.0</td>
</tr>
<tr>
<td>6</td>
<td>Speech Language Pathologist</td>
<td>105</td>
<td>3,840</td>
<td>2.7</td>
</tr>
<tr>
<td>7</td>
<td>Respiratory Therapist</td>
<td>53</td>
<td>3,160</td>
<td>1.7</td>
</tr>
<tr>
<td>8</td>
<td>Medical Assistant</td>
<td>139</td>
<td>11,140</td>
<td>1.3</td>
</tr>
<tr>
<td>9</td>
<td>Imaging</td>
<td>92</td>
<td>9,660</td>
<td>1.0</td>
</tr>
<tr>
<td>10</td>
<td>Emergency Medical Services</td>
<td>75</td>
<td>8,930</td>
<td>0.8</td>
</tr>
</tbody>
</table>

The vacancy index is calculated by dividing the number of positions advertised by the profession’s total workforce size and multiplying by 100.

Sources: NC Health Professions Data System Allied Health Job Vacancy Tracking Project with funding provided by the North Carolina Department of Commerce, the North Carolina Health and Wellness Trust Fund and the Florence Rogers Charitable Trust.
Allied Health Demand by Job Setting

Demand by employment setting

<table>
<thead>
<tr>
<th>Employment Setting</th>
<th>Percentage of Total Job Advertisements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital</td>
<td>43</td>
</tr>
<tr>
<td>Practice</td>
<td>23</td>
</tr>
<tr>
<td>Home Health</td>
<td>11</td>
</tr>
<tr>
<td>Rehab</td>
<td>8</td>
</tr>
<tr>
<td>Travel</td>
<td>5</td>
</tr>
<tr>
<td>School</td>
<td>3</td>
</tr>
<tr>
<td>Staffing</td>
<td>3</td>
</tr>
<tr>
<td>Government</td>
<td>2</td>
</tr>
<tr>
<td>Unknown</td>
<td>1</td>
</tr>
<tr>
<td>EMS Transport</td>
<td>1</td>
</tr>
<tr>
<td>Long-term Care</td>
<td>1</td>
</tr>
<tr>
<td>Lab</td>
<td>0</td>
</tr>
</tbody>
</table>

Sources: NC Health Professions Data System Allied Health Job Vacancy Tracking Project with funding provided by the North Carolina Department of Commerce, the North Carolina Health and Wellness Trust Fund and the Florence Rogers Charitable Trust.
Relatively High Vacancies in Area L and South East AHECs

Allied Health Job Vacancy Advertisements per 10,000 Population by AHEC Region, North Carolina, Fall 2010

Notes: North Carolina newspaper and online listings for select allied health professions tracked from September 19 to November 28 (N=1,748).
Source: North Carolina Health Professions Data System, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill, 2011.

Sources: NC Health Professions Data System Allied Health Job Vacancy Tracking Project with funding provided by the North Carolina Department of Commerce, the North Carolina Health and Wellness Trust Fund and the Florence Rogers Charitable Trust.
Labor Markets are Regional

Physical Therapist Job Vacancy Advertisements as Percent of All Vacancies by AHEC Region, and Location of Accredited Physical Therapy Education Programs
North Carolina, Fall 2010

NC average is 30% of all vacancies
- AHEC Boundary
- County Boundary
- Accredited PT Program

Notes: North Carolina newspaper and online listings for select allied health professions tracked from September 19 to November 28 (N=1,748).

Sources: NC Health Professions Data System Allied Health Job Vacancy Tracking Project with funding provided by the North Carolina Department of Commerce, the North Carolina Health and Wellness Trust Fund and the Florence Rogers Charitable Trust.
Council members asked how health reform would affect demand for their profession

- Increased demand, 53.2%
- No effect, 37.2%
- Don’t know, 9.6%

“Increased patient access will significantly increase the demand for allied health professionals.”

“There will be greater demand with more hospitals ...providing even better quality care for patients.”

“Hard to tell but shortage of PTs may ultimately limit size of workforce if non-PTs do PT functions.”

“Implementation of electronic health records will necessitate the demand for highly skilled HIT professionals.”

Sources: NC Health Professions Data System Allied Health Job Vacancy Tracking Project with funding provided by the North Carolina Department of Commerce, the North Carolina Health and Wellness Trust Fund and the Florence Rogers Charitable Trust.
But is the HIT Workforce Growing?

US Bureau of Labor Statistics predicts employment of medical records and health information technicians expected to much faster than average through 2018

- Ranks 5th on the list of professions tracked
- Higher demand in the hospital setting
- Likely to see stronger demand as EHRs fully roll out in outpatient settings

Making the Link to Economic Development
Even with data, had trouble getting policy makers to pay attention to allied health

- Decided to make explicit link the between allied health workforce growth and economic development
- Emphasize allied health as “jobs machine”
  - Even in recession, strong job growth
  - Potential to sustain local economies, particularly rural ones
  - Less vulnerable to outsourcing
  - Job growth likely to continue, given demographic changes, population growth, epidemiological trends, insurance expansion
Produced
“State of Allied Health Report”
The Dilemma of Inclusionary / Exclusionary Definitions of Allied Health

Healthcare Jobs in North Carolina, 2009

- Total Allied Health Jobs = 128,150
- Total Healthcare Jobs = 364,000
- RNs, 24%
- LPNs, 5%
- Physicians, 5%
- Other, 3%
- Nurse aides, orderlies and attendants, 28%

Note: “Other” healthcare occupations includes chiropractors, dentists, optometrists, pharmacists and podiatrists.
The Transformation of North Carolina’s Economy

Total Employment in Manufacturing and Health Care and Social Assistance Employment in NC, 1999-2009

Lots of Potential...But State-Based Health Workforce Planning Efforts Are Fragmented

Limited collaboration exists between policy makers, educators, employers and others charged with monitoring, planning and implementing workforce strategies at the local, state and national level
Allied Health Workforce Planning the Traditional Way
Broadened Our Collaborations to Include Governor’s Office and NC Workforce Development Commission

- NC Department of Commerce invested in Allied Health Regional Skills Partnerships (RSPs)
  - 7 planning grants for $55,000 for 15 months
  - 4 chosen for implementation grants of $250,000 over 2 years, ending June 30, 2011
- Address allied health workforce issues in region focusing on:
  - increasing sector’s competitiveness
  - creating employment and career advancement opportunities for unemployed and dislocated workers
- RSPs partnered with community colleges, local government, health care employers, AHEC and other regional stakeholders
But Many Others Use Data

### Government
- General Assembly
- Office of Rural Health
- State Center for Health Stats
- Department of Commerce
- County Health Depts.

### Workforce Policy
- NC AHEC
- NC Institute of Medicine
- Council for Allied Health in NC
- NC Licensure Boards

### Education, Research
- UNC General Administration
- NC Community College System
- Private Colleges, Universities
- Individual Researchers

### Funders
- Duke Endowment
- Kate B. Reynolds Charitable Trust
- Health and Wellness Trust Fund

### National Organizations
- HRSA
- AMA
- AAMC
- IOM

### Professional Associations
- NCAFP
- NC Medical Society
- NC Hospital Association

### Other
- Media; Students; Health Professionals; Individuals; Attorneys; Continuing Education; Health Systems
# How Do They Use Our Data?

<table>
<thead>
<tr>
<th>Government</th>
<th>Workforce Policy</th>
<th>Education, Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy Decisions</td>
<td>Evaluation</td>
<td>Planning for new schools</td>
</tr>
<tr>
<td>Allocate funding</td>
<td>Program planning</td>
<td>Planning for new programs</td>
</tr>
<tr>
<td>Program planning</td>
<td>Policy analysis</td>
<td>Pipeline and diversity</td>
</tr>
<tr>
<td>Evaluation</td>
<td>Regulatory questions</td>
<td>Evaluation</td>
</tr>
<tr>
<td>HPSA analysis</td>
<td>Grant proposals</td>
<td>Research projects</td>
</tr>
<tr>
<td>Grant proposals</td>
<td>Pipeline and diversity</td>
<td>Grant proposals</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Funders</th>
<th>National Organizations</th>
<th>Professional Associations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program planning</td>
<td>National policy</td>
<td>Advocacy, Membership</td>
</tr>
<tr>
<td>Allocate funding</td>
<td>Evaluation</td>
<td>Policy analysis</td>
</tr>
<tr>
<td>Evaluation</td>
<td>Dissemination</td>
<td>Program planning</td>
</tr>
<tr>
<td></td>
<td>Improve data quality</td>
<td>Grant proposals</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>News stories; class projects; locational analysis; loan repayment; court cases; advertise seminars</td>
</tr>
</tbody>
</table>
Health Reform and the New World of Workforce Planning

• Economy is important but next generation of workforce planning will also be determined by large-scale policy change

• New world of Patient-Centered Medical Homes (PCMH) and Accountable Care Organizations (ACO)

• All about redesign of how health care is delivered, less emphasis on who delivers care
Workforce Planning Challenges
Presented by PCMHs and ACOs

Full implementation of PCMH and ACO models will require:

• Shifting workforce planning away from specific health professional groups or employment sectors toward planning:
  – For health service needs of defined populations
  – By service area and/or patient pathway

• Evaluating cost and quality outcomes of different:
  – Models of care
  – Skill mix configurations
North Carolina’s State Health Care Workforce Planning Grant

Assess
- Key health care services provided by PCMHs
- Number and types of professionals needed in PCMHs
- How well supply matches needs of population

Identify
- Need for new programs
- Mechanisms to retool existing workforce
- Need for new professions to meet PCMH needs
## Services and Professions in the Patient Centered Medical Home

*Services and Professions adapted from the American College of Physicians definition*

<table>
<thead>
<tr>
<th>Primary Care Practitioners</th>
<th>Team-Based Services</th>
<th>PCMH “Neighbors”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physicians</td>
<td>Nursing</td>
<td>Specialist Physicians</td>
</tr>
<tr>
<td>PAs</td>
<td>Pharmacy</td>
<td>Allied Health</td>
</tr>
<tr>
<td>NPs</td>
<td>Administration</td>
<td>Oral Health</td>
</tr>
<tr>
<td></td>
<td>HIT</td>
<td>Vision Care</td>
</tr>
<tr>
<td></td>
<td>Mental/Behavioral Health</td>
<td>Long-Term Care</td>
</tr>
<tr>
<td></td>
<td>Direct Care</td>
<td>Community Services</td>
</tr>
<tr>
<td></td>
<td>Allied Health</td>
<td>Other</td>
</tr>
</tbody>
</table>

**Emerging Professional Roles**

- HIE/HIT Case Management
- Client Coordination Disease Management
- Health Education Community Health

Lessons Learned

- Deciding to engage in workforce planning
- Building on NC’s leadership in data collection/analysis
- Collecting demand side data
- Partnering with health, education and labor organizations
- Getting allied health a “seat” at policy table
Challenges

- Distribution
- Diversity
- Growth of assistive personnel: credentialing?
  - Link workforce supply to cost and quality of patient care
  - Identify new and emerging health professional roles needed to fully roll out PCMHs
  - Build capacity to engage in population-based workforce planning
- Securing resources
Questions?

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See our website for allied health publications:  
http://www.shepscenter.unc.edu/hp