The CRNA Workforce: Too many, too few or just right?
Programs, Students, Clinical Sites, Accreditation

John M. O’Donnell CRNA, MSN, DrPH
jod01@pitt.edu
Objectives

1. Describe trends in programs, students and graduates
2. Analyze the workforce variables which impact the CRNA job market including certification
3. Discuss issues faced by programs, students, providers and the profession when considering workforce trends
Nurse Anesthesia Education

• Many changes....
  – Accreditation
  – Certification (NBCRNA)
  – Students have changed
    • Generational differences
    • Consumers
    • Debt
  – Technology has changed the dynamic
    • On line programs....
Accreditation

Council on Accreditation of Nurse Anesthesia Educational Programs

(COA)
COA

• Sets case numbers
• Accredits programs
  – Site visitors
  – Standards and Guidelines
• Complies with USDE and CHEA
• Handles complaints
• Sets standards
CRNA Education Programs

• 1976 ------ 194 programs
• 1980 ------ 161 programs
  – same number of graduates
  – greatest drop in CRNA programs contrasted by significant increases in MD residencies
• 1990 ----- 82 programs
  – DHHS study: need to AT LEAST triple CRNA grads by 2010
  – 750 x 3 = 2250
• 1995 ----- 87 programs
• 1999 ----- 82 programs (619 clinical sites)
• 2/2004 – 88 programs (1016 clinical sites)
• 2/2005 – 94 programs
• 2/2006 – 99 programs (1300+ clinical sites)
  – 11 new programs eligible for application in 2006
• 1/2007 – 106 programs (1500+ clinical sites)
• 1/2009-- 108 programs (> 2000 clinical sites)
• 1/2010- 109 programs (2077 clinical sites)
• 1/2011- 112 programs ( > 2200 clinical sites)
AANA Membership Info 2010-2011

~6,000/~20,000 respondents
Total Membership

Total Membership 2001-2011

45,910
Certified, Recertified, Students 2011

Certified, Recertified and Student Members


- Green: Active Certified
- Yellow: Active Recertified
- Purple: Students

2001:
- Active Certified: 5,000
- Active Recertified: 20,000
- Students: 7,000

2006:
- Active Certified: 5,000
- Active Recertified: 30,000
- Students: 7,000

2011:
- Active Certified: 5,000
- Active Recertified: 35,000
- Students: 7,000
Gender Proportions: 2011

Gender

Male  |  Female

All Employed  
(n=7,757)  
45%  |  55%

Full-Time Employees  
(n=6,709)  
49%  |  51%

Part-Time Employees  
(n=1,048)  
23%  |  77%
Gender Trend: Annual Report 2011

Gender Trends 2001 vs. 2010

- Male: 44% in 2001, 45% in 2010
- Female: 56% in 2001, 55% in 2010
February 09..... 108 programs

Nurse Anesthesia Programs, Graduates and Clinical Sites

Now 112

Courtesy, Dr. Frank Gerbasi, Director of Accreditation, AANA COA, Feb 2009
<table>
<thead>
<tr>
<th>Year</th>
<th>Grads</th>
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<tbody>
<tr>
<td>1980</td>
<td>1023</td>
</tr>
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<td>1988</td>
<td>574</td>
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<td>1990</td>
<td>750</td>
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<td>981</td>
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<td>1997</td>
<td>934</td>
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<td>1999</td>
<td>948</td>
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<td>2001</td>
<td>1159</td>
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<td>2003</td>
<td>1500</td>
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<td>2006</td>
<td>1946</td>
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<td>2007</td>
<td>2021</td>
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<td>2008</td>
<td>2161</td>
</tr>
<tr>
<td>2009</td>
<td>2239</td>
</tr>
<tr>
<td>2010</td>
<td>2417</td>
</tr>
</tbody>
</table>
Possible Responses

• Advantages
  – CRNA vacancy rates have been as high as 10% - not sustainable
  – Failure to fill vacuum = alternative providers
  – Better relationships with industry leaders
  – Helps to change the workforce demographic
  – More membership = more influence
  – Quality opportunity
  – Educational opportunity

• Disadvantages (fears)
  – Competition for jobs
  – Competition for cases
  – Salary compression?
  – Not enough clinical sites?
  – Quality
  – Shortage of qualified program faculty
  – Pressurizes the clinical system
    • Sites
    • Coordinators
    • Instructors
Increases 1999-2009 (10 yrs)

- Graduates: 236%
- Clinical sites: 317%
- Programs: 31%

- Barometer of issue- PD/faculty turnover

Courtesy, Dr. Frank Gerbasi, Director of Accreditation, AANA COA, Feb 2009
Program Director/Faculty Turnover

• 1998- 2010 average- 15%
• 2005- 22%- Highest reported %
  – 21/94 programs
• Other faculty % turnover is higher
• Pressures
  – Doctoral education
  – Clinical pushback
  – Too much work
  – Endless job

Courtesy, Dr. Frank Gerbasi, Director of Accreditation, AANA COA, Feb 2009
What About Applicants?

• Exact numbers unknown- some programs report economy is affecting
• Over the last 10 years- significant excess of applicants
• 150-220 at Pitt over last 5 years
• Major recruiting tool at undergraduate level
  – Obstacles to early admission as in dentistry, medicine etc
### Number of Qualified Applicants Turned Away (108 Programs)

<table>
<thead>
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<th># of Applicants</th>
<th>N</th>
<th># of Applicants</th>
<th>N</th>
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<td>7</td>
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<tr>
<td>11 - 20</td>
<td>19</td>
<td>61 - 70</td>
<td>5</td>
</tr>
<tr>
<td>21 - 40</td>
<td>16</td>
<td>71 - 80</td>
<td>5</td>
</tr>
<tr>
<td>31 - 40</td>
<td>9</td>
<td>81 - 90</td>
<td>3</td>
</tr>
<tr>
<td>41 - 50</td>
<td>9</td>
<td>&gt; 90</td>
<td>9</td>
</tr>
</tbody>
</table>

Total Number Turned Away = 4,152
What does the NBCRNA do and who is the Director?

Certification/Re-certification
Karen Plaus
Changes in Certification 2007- Now

• Reorganization into National BOARD of Certification and Recertification of Nurse Anesthetists
  – Council on Certification
  – Council on Recertification
• Changes in the exam
• Minimum of 100, Max of 170
• Alternative formats
Certification Exam Changes

• Scale of certification exam has also changed
  – Pass score remains **450**

• Scale used to be 300-600
  – 300 = I signed my name (same)
  – 600 = maximum *reported* score- **NOT PERFECT**
    • Many people mis-interpreted this as a perfect score
  – Program web sites reported results this way
Other Changes in Certification

• Candidate eligibility as of Jan 1, 2009
  – NBCRNA has determined that if a candidate admits to having been on probation for academic integrity, cheating or unethical behavior....they have the right to investigate and deny certification examination eligibility regardless of the decision reached at the educational program
  – Designed to protect the integrity of the exam

NBCRNA Clarification of New Eligibility Policy

Disciplinary Actions Based on Unethical Behavior, Questions of Academic Integrity or Documented Evidence of Cheating
Change in Rigor and Test Map

• Rigor has increased
  – Alternative items
  – Pass rates as low as 86% for 1st time takers
  – Average in last 5 years- ~90%

• Test map has changed to emphasize
  – Professional issues, Equipment, Instrumentation, Technology
  – De-emphasizes Basic principles, Basic sciences
AANA Assembly of School Faculty

• February 2008
• Announced new testing approach
  – Multiple, multiples (pick all of the following which are correct, which 4 choices, how many of the following....)
  – Interactive models (eg regional anesthesia)
  – Screen based formulas and calculations (calculator will hover)
NBCRNA Changes: When and How Often

• Prior to 2009
  – Fail- could take the exam as many times as desired

• 2009 (applies retroactively to grads from 2007)
  – Fail- can retake up to 4 times in one year
  – Have a total of 2 years post-graduation to pass
  – If unsuccessful?

• Repeat a **full and unabridged course of study** in a Nurse Anesthesia Program
Certification Bottom Line

Testing and the entire process is more rigorous than it used to be

The penalty for not being able to pass the exam is more severe
Have Changes in Student Numbers Hurt CRNA....

Employment settings
Income
How they are treated and valued
Merwin take home: there are mismatches between CRNA supply and hospital needs. It is geographic.
Example: Minneapolis, MN

- 2010 AOSF
- Graduate from a Minneapolis program indicated they could not find a job in the twin cities
- Did not want to relocate.....
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Sources of Income

Primary Employment Arrangement/Source of Income

<table>
<thead>
<tr>
<th>Source of Income</th>
<th>2009 Results (n=5,099)</th>
<th>2010 Results (n=5,626)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee of a group</td>
<td>33%</td>
<td>34%</td>
</tr>
<tr>
<td>Employee of a hospital</td>
<td>35%</td>
<td>38%</td>
</tr>
<tr>
<td>Independent contractor</td>
<td>15%</td>
<td>13%</td>
</tr>
<tr>
<td>Employee in other setting</td>
<td>7%</td>
<td>8%</td>
</tr>
<tr>
<td>Owner/partner</td>
<td>5%</td>
<td>4%</td>
</tr>
<tr>
<td>Military/GoVt. Veterans</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>Other employment</td>
<td>1%</td>
<td>1%</td>
</tr>
</tbody>
</table>
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Full vs. Part-time

Employment Status

\( n=6,912 \)

- Full-time (35+ hours per week), 81%
- Part-time (<35 hours per week), 15%
- Unemployed, 1%
- Retired, 3%
Primary Position

(n=5,528)

- Practice: 96%
- Education: 2%
- Department Mgmt/Admin: 2%
- Research: 0%
- Consultation: 0%
Practice Specialization

Clinical Practice Area Specialization
(n=5,573)
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Total Compensation Statistics - By Setting

2010 Total Compensation for Full-Time CRNAs
(n=3,680)

- 25th percentile: $140,000
- Mean: $165,571
- Median: $162,000
- 75th percentile: $187,000
- 90th percentile: $215,000
Compensation Trend by Employment 2001 to 2010

Employee Compensation Trends CY2001 vs. CY2010

Figures in $000

- All full-time CRNAs: 105 (2001), 162 (2010)
- Employee in other setting: 100 (2001), 163 (2010)
- Military/Govt./Veteran’s Admin.: 89 (2001), 160 (2010)
Full-time Employer
(n=3,359)

- Health Insurance: 98%
- Malpractice Insurance: 91%
- Dental Insurance: 82%
- Life Insurance: 82%
- Retirement Program: 81%
- Disability Insurance: 78%
- Vision Insurance: 63%
- Long term care: 34%
- Continuing education: 73%
- Prof association dues: 64%
- Prof conference fees: 55%
- College tuition credit: 18%
- Day care: 3%
Are We Valued?
What About Practice?
Main Professional Concerns?
How Favorable is Your Primary Work Environment to Nurse Anesthetists?

Average rating = 4.0

- 2% (NOT favorable)
- 6%
- 18%
- 37%
- 37% (VERY favorable)

(n=5,144)
Techniques in Anesthesia Practice

(n=5,377)

- Monitored Anesthesia Care (MAC): 99%
- General anesthesia: 99%
- Arterial catheter insertion: 75%
- Bier block: 63%
- Subarachnoid block: 62%
- Epidural: 53%
- Fiber optic intubation: 46%
- CVC insertion: 31%
- Brachial plexus block: 27%
- PAC insertion: 11%
- Chronic pain management: 9%
- Ophthalmologic block: 4%
% of CRNAs Working in Designated Trauma Centers by Level
(n=4,780)

- Level 1: 22%
- Level 2: 21%
- Level 3: 11%
- No Trauma Center: 44%
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Major Professional Issues

Major Professional Issues Affecting CRNAs’ Practices
(n=5,161)

- Politics: 51%
- Stress: 40%
- Chaotic schedule: 37%
- Time/load: 31%
- Policies/procedures: 32%
- Lack of respect: 31%
- Inadequate staffing: 24%
- Limited scope of practice: 22%
- Lack of job autonomy: 21%
- Difficulty with reimbursement: 13%
- Ineffective medical dir/sup: 13%
What does the workforce look like from an age perspective?

We are getting more.....
Experienced!

60% of practicing CRNAs have more than 10 years of experience

average age 49.8
Years of Practice - 2011

60% > 10 years

Years Practicing as a CRNA
(n=5,097)

- Less than 2 years: 8%
- 2-5 years: 18%
- 6-10 years: 14%
- 11-20 years: 23%
- More than 20 years: 37%
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Age Demographic

We are aging as a profession

55% ≥ 50

Age

(n=5,968)

Average = 49.8 years old

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Percentage</th>
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<tbody>
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<td>Under 30</td>
<td>2%</td>
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<td>30-34</td>
<td>8%</td>
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<tr>
<td>35-39</td>
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<td>40-44</td>
<td>11%</td>
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<td>45-49</td>
<td>13%</td>
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<td>55-59</td>
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<td>60-64</td>
<td>13%</td>
</tr>
<tr>
<td>65+</td>
<td>6%</td>
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Age Demographic Trend

Age Trends 2001 vs 2010

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<td>20%</td>
<td>16%</td>
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<tr>
<td>55-59</td>
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<td>20%</td>
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<tr>
<td>60-64</td>
<td>5%</td>
<td>13%</td>
</tr>
<tr>
<td>65+</td>
<td>1%</td>
<td>6%</td>
</tr>
</tbody>
</table>
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Retirement Projection

When Do You Expect to Retire from Anesthesia Practice?
(n=5,123)

Includes full-time, part-time, and unemployed CRNAs

50% by 2022
Retirement

- So if 50% of CRNAs retire over the next 10 years that would be $0.5 \times 46,000 = -23,000$
- If we continue to produce 2400 students per year $= 2400 \times 10 = +24,000$

- Net gain of $1,000$ providers over 10 years given a steady supply
Take homes...

• More.....
  – Programs
  – Students
  – Clinical sites
  – Clinical faculty
  – **Opportunity** for teaching and learning
  – Competition??

• High levels of:
  – Satisfaction
  – Salary
  – Benefits

We need to be...
Threats...

Economy- CRNAs did not retire....
Graduates numbers are increased
Control of graduates (no F-S ratio required)
Job market tight in some areas of US
Alternative providers
Politics getting more serious
Failure to maintain quality
Workforce Positives

• We are affordable, safe and offer high quality
• ↑ in case loads
• ↑ in operating rooms and non-traditional locations
• ↑ in public expectation for painless procedures
• ↑ in worry about patient satisfaction
• ↑ use of non-physician providers
• IOM reports
• Healthcare reform
Discussion