Physician Assistants: Past and Future

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October 2015
Oregon Society of Physician Assistants

PA Education Worldwide

<table>
<thead>
<tr>
<th>Country</th>
<th>No. of Programs</th>
<th>Year and Location</th>
<th>Length of Program (Months)</th>
<th>Didactic (Months)</th>
<th>Clinical (Months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>1</td>
<td>2009-2011 University of Queensland, 2012-2014 James Cook University</td>
<td>24</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Ireland</td>
<td>1</td>
<td>2015-2016 Beaumont Hospital</td>
<td>24</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>India</td>
<td>5</td>
<td>2010-2015 various locations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>1</td>
<td>2010-2014 Prince Sultan Military College of Health Sciences, Saudi Arabia</td>
<td>24</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Scotland</td>
<td>1</td>
<td>2012-2014 University of Aberdeen</td>
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<td></td>
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</tr>
<tr>
<td>South Africa</td>
<td>1</td>
<td>2010-2014 University of Witwatersrand</td>
<td>24</td>
<td></td>
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<tr>
<td>United States</td>
<td>190</td>
<td>1965-2015 various locations</td>
<td>24-38</td>
<td>12</td>
<td>14</td>
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<tr>
<td>Other</td>
<td></td>
<td></td>
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</tbody>
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Health Workforce
North America

- Physician interest in family medicine is declining
- Workforce policy experts believe that PAs and NPs are an important asset for primary care service delivery
- PAs/NPs not only augment primary care services but provide roles in hospital inpatient services and teaching centers

<table>
<thead>
<tr>
<th>Year</th>
<th>US</th>
<th>Canada</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>316 Million</td>
<td>34 Million</td>
</tr>
<tr>
<td>Percent 65+</td>
<td>13%</td>
<td>13%</td>
</tr>
<tr>
<td>Percent Rural (65+65)</td>
<td>20% (PN)</td>
<td>20% (PN)</td>
</tr>
<tr>
<td>Number of Physicians (2011)</td>
<td>720,000</td>
<td>65,000</td>
</tr>
<tr>
<td>Percent FP</td>
<td>30%</td>
<td>50%</td>
</tr>
<tr>
<td>Number PAs</td>
<td>88,000</td>
<td>300</td>
</tr>
<tr>
<td>Number NPs</td>
<td>127,000</td>
<td>3,000</td>
</tr>
</tbody>
</table>
U.S. PAs at a Glance —2013

| Primary specialty | Number | %.
|-------------------|--------|--
| Primary care (family/general medicine, general internal medicine, general pediatrics) | 28,836 | 34%
| Surgery/surgical subspecialties | 21,296 | 25%
| Internal medicine subspecialties | 3,244 | 11%
| Miscellaneous | 7,630 | 9%
| Total | 84,168 | 100%

Female 75%
Age (mean years) 42
Mean age at graduation from PA program 29 years
Mean years in clinical practice 10 years

Employer type:
- Office of Physicians: 50,510
- General Medical and Surgical Hospitals: 19,380
- Outpatient Care Centers: 6,040
- Government employment (Federal): 2,410
- Colleges, Universities, and Professional Schools: 2,210

Work setting:
- Hospital inpatient unit: 10%
- Hospital emergency department: 10%
- Hospital outpatient unit: 7%
- Community health center: 8%
- Rural community: 15%

Primary practice specialty:
- Primary care (family/general medicine, general internal medicine, general pediatrics): 34%
- Surgery/surgical subspecialties: 25%
- Internal medicine subspecialties: 11%
- Miscellaneous: 9%

Annual wage (mean wage for more than 32-hour workweek; may include second job): $98,496
Percent who report working two or more jobs (AAPA & NCCPA): 14%
Percent with two or more active state licenses (P360): 17%

Growing the PA Profession

1965 - 2015

1967-69: PAs Entering Workforce Gender / Age Distribution

N = 29
Age = 29 years
1970-79: PAs Entering Workforce Gender / Age Distribution

1980-89: PAs Entering Workforce Gender / Age Distribution

1990-99: PAs Entering Workforce Gender / Age Distribution
US PA and NP Graduates Per Year (1992-2020)

Hooker et al 2015; PAEA, ARCPA, AACN data 2015

Geographic Distribution of PA Programs: 2015

• US programs by state:
  – New York
  – Pennsylvania
  – California
  – Texas
  – Florida
• Program size is expanding
• Graduation rates are increasing
• Approximately half are private institutions
Physician Assistant
Scope of Laws

Few states have the full complement of 6 criteria to meet model legislation (federal policies excepted).

Mean Annual Salary
(MGMA 2014)

Compensation for Primary Care Providers
2013 Annual Wages for 5 Major Employers of Physician Assistants

- Outpatient Care Centers
- General Medical and Surgical Hospitals
- Offices of Physicians, Colleges, Universities, and Professional Schools
- Federal Executive Branch

Quella, Brock, Hooker 2015

PA Wage Comparison by State: 2013

Annual mean wage of physician assistants, by area, May 2013

Quella, Brock, Hooker 2015
Primary Care in America:
Percentage of Providers Identified in Primary Care

Trends in Emergency Medicine
- The role of NP/PAs in emergency medicine is varied but spans the same degree of care as doctors
- Many ED/NPs staff "fast-track" (urgent care)
- In ED EDs, there is one PA/NP for every five doctors
- ED: fast growth for PAs since 2000
- Team based care studies are needed to understand the dynamics and interaction of the players
- Outcomes studies are needed

NPs and PAs on Inpatient Services
- NP/PA utilization on inpatient services has gained increasing attention since 2003 as hospitals adjust to GME work hour limitations
- Several reports have documented hospital services' experiences in using PA/NPs as resident substitutes
- Time-motion studies are needed to document the work flow and role
US PA & NP Population in 2013:
*Active Licenses*

(PA = 84,059)  (NP = 127,857)

Predominantly female
On average women clinicians are younger than men
A younger cohort suggests they may remain in the workforce longer

**Forecasting the Supply of PAs**

Important to establish the correct "base" number

Limitations of existing data sources on the number of PAs:
- AAPA Census (decreasing participation rate)
- NCCPA certificates (renewal every 6 years)

New Source: Provider 360 Database

Uses number of PAs with active state licenses

84,059 in 2012
May be the most reliable and accurate database available

Stock & Flow Model

**US PA Population: 2013**

(N = 84,059)

Age/Gender 2013 Graduates

- N=7,100*
- Female: 75%
- Mean age: 30 years

*Based on 2012 CASPA matriculates
Source: PAEA – CASPA 2012

Attrition

- Attrition (not functioning as a PA/departing clinical practice)
  - Death
  - Retirement
  - Other
- Critical piece of predictive models
  - High attrition
  - Low attrition
- Estimating the right number is challenging because so little is known
  - 5% is best guess for US PAs (may be changing)
  - DoD and VA PA attrition = 9%
- Retention is the opposite of attrition
  - Can be a problem with certain industries (such as pilots and professors)
  - Senior members are expensive and stand in the way of succession.

Existing Information

- Baseline: number of PAs in active clinical practice is based on active license (excludes deceased, sanctioned and expired licenses)
- Graduation: The annual supply of PAs can be estimated with reasonable precision
- Retirement: based on patterns of expired licenses without renewal. Validated by ongoing retirement studies.
  - J. Coombs: Intent of PAs to Retire (2012)
  - J. Coombs: Retired PAs (2012)
- Death Registry: AAPA and National

The historical career patterns of PAs are beginning to be understood
Attrition Patterns: US Physicians

Source: 2006 Association of American Medical Colleges Survey plus CDC mortality rates

Career Duration of Physician Assistants

PA Education (2015)
- Number of accredited programs = 198
- Programs with graduates = 178
- Total enrollment = 12,800
- 2015 graduates = 6,962

PAEA 2015 (unpublished)
Projected Number of PA Programs in the Accreditation Pipeline

- Baseline number of programs as of June 2015 = 190
- (includes both accredited programs and provisionally accredited programs)
- Mean number of students per graduating class = 45
- Significant expansion of the number of institutions sponsoring PA educational programs seeking to attain ARC-PA accreditation between 2012 and 2020

Source: ARC-PA John McCarty, personal communication, April 2014.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td>2012</td>
<td>168</td>
</tr>
<tr>
<td>2013</td>
<td>173</td>
</tr>
<tr>
<td>2014</td>
<td>188</td>
</tr>
<tr>
<td>2015</td>
<td>198</td>
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<tr>
<td>2016</td>
<td>205</td>
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<tr>
<td>2017</td>
<td>212</td>
</tr>
<tr>
<td>2018</td>
<td>216</td>
</tr>
<tr>
<td>2019</td>
<td>220</td>
</tr>
<tr>
<td>2020</td>
<td>224</td>
</tr>
</tbody>
</table>

Projected US PA Program Growth

Results

- Growth of the US PA supply will continue at approximately 7% annually
- Annual attrition will be 4%±1%:
  - aging graduation cohorts of the 1970s and 1980s
  - young women are replacing older men
- 30 year clinical career span (range 10-40 years)
- 100,000 American PAs will be licensed by 2016
### Assumptions

<table>
<thead>
<tr>
<th>Variable</th>
<th>Key Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Graduates</td>
<td></td>
</tr>
</tbody>
</table>
- Domestic students only  
- Mean age remains stable at 30 years  
- Percentage female remains stable at 64%  |
| Attrition from PA Activity | Includes: retirement, illness, death, emigration, not qualified, and other reasons for leaving clinical practice.  |
| New PA programs | The net number of PA programs with graduating classes by 2020: 214.  
- After 2020, the net increase in PA program growth will average three per year.  
- (The calculation assumes some programs will close or merge).  
- Lag time from provisional accreditation to graduation of first class: 2.5 years (but start up to full maturity takes 8 years).  |
| Existing PA Programs |  
- The mean length of a PA program remains 26 months.  
- The number of PA programs with a graduating class at the end of 2012 was 154.  
- The mean number of graduates per program is 45 and remains at 45/year.  |

### Projected Supply of Physician Assistants and Nurse Practitioners
Results

- **Growth 2012-2020:**
  - PA profession will grow approximately 7% annually
  - NP profession will grow approximately 4% annually
- **Annual attrition**
  - PAs will be 5% ± 1%
  - NPs will be 6% ± 2%
  - aging graduation cohorts of the 1970s and 1980s
  - young women are replacing older men
- **35 year clinical career span (reasonable?)**
- **2015:**
  - 100,000 clinically active PAs
  - 130,000 clinically active NPs

Demand Growth for PA Services

Source: The Lewin Group, 2010

The Effect of Health Reform on Physician Assistants and Nurse Practitioners

**Demand:**
- Enrollment of 16 million newly insured
- Aging population
- Sustainability of chronic diseases
- New technology (pharmacy, techniques, tools)
- Quality and cost-effectiveness imperatives
- Electronic health records
- Consolidation of small and medium size practices
- Hospitalization

**Supply:**
- Physicians: 18,000 – 25,000 new graduates
- Physician Assistants: 7,000 – 9,000 new graduates
- Nurse Practitioners: 10,000 – 15,000 new graduates
- Career span: 30 years
- Annual productivity
Summary

• PA/NPs are a unique American phenomenon - spreading globally
• Demand exceeds supply (for the foreseeable future)
• Stock of Providers
  – PA: modest trajectory; likely to grow for 10 years
  – NP: steep trajectory; likely to grow for 10 years
• PA/NPs are testing traditional models of medical education
  – PA education is efficient and relatively inexpensive
  – The graduate is able to assume a wide range of tasks early and tends
to grow into the job quickly
  – Postgraduate PA education; <0.1% of 105,000 ever graduated PAs (and
is not tested)

The past predicts the future...
right up to the point it doesn’t

-George Will 2008