

## Year in Review The Medical Workforce Literature

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## Research

- Research is an activity based on intellectual investigation aimed at discovering, interpreting, and revising human knowledge on different aspects of the world.
- PA centered research aims to understand the interplay of specialized labor on society and professional relationships.

## 2006 - 2007 PA-oriented Literature

- Total papers reviewed: 12
- Papers selected: 5
- Goal: to advance knowledge about healthcare organization and efficiency
  - Identify or amplify theories to explain social behavior
  - Promulgate research on the PA profession

## Missing in Action: Care by Physician Assistants and Nurse Practitioners in National Health Surveys

Perri A. Morgan, Justine Strand, Truls Østbye, and Mark A. Albaneser

*HSR: Health Services Research*

April 2007

Health Research and Educational Trust

## Objectives

- Discuss the need for generalized research regarding physician assistants (PAs) and nurse practitioners (NPs).
- Analyze national health and healthcare surveys for research on PAs and NPs.
- Recommend improvements that will make national surveys more appropriate for research on PAs and NPs.

## Comparison of household and provider surveys

Survey Component nickname	NAMCS (OBV)	NHAMCS-OPD	NHAMCS-ED	MEPS-OBV	MEPS-OPD
Survey Component Full name	National Ambulatory Medical Care Survey	National Hospital Ambulatory Medical Care Survey- hospital outpatient department	National Hospital Ambulatory Medical Care Survey- hospital emergency department	Medical Expenditure Panel Survey- Office Based provider Visits	Medical Expenditure Panel Survey, Hospital outpatient department visits
Primary sponsor	National Center for Health Statistics			Agency for Healthcare Research and Quality	
Data source	Providers			Households	
Setting	Office-based	Hospital outpatient department	Hospital emergency department	Office-based	Hospital outpatient department

## What proportion of patient visits would we expect to be attended by PAs?

- Physician: PA ratio 10:1
  - 9% PAs
  - 91% physicians
- Assume that PAs see about 75% as many patients/week as physicians
- Prediction: PAs = 7% of all patient visits
- Database = Physician:PA visit ratio 14:1

## Precision of 2003 National Estimates

	NAMCS office-based	NHAMCS hospital outpatient department	NHAMCS emergency department	MEPS office-based	MEPS hospital outpatient department
Physician visits (millions)	864 (77-953)	75.1 (61.3-88.8)	105.2 (84-115)	970.4 (825-1016)	54.9 (48.5-61.4)
PA visits in millions (95% CI)					
With physician	6.4 (3.0-9.8)	0.6 (0.2-0.9)	3.9 (2.6-5.1)	12.7 (10.6-14.8)	0.56 (.26-.86)
Without physician	6.5 (2.0-11)	6.3 (1.7-10.9)	3.6 (2.0-5.1)		
% visits to Physicians	98.5	91.6	93.3	98.7	99
% visits to PAs	1.5	8.4	6.7	1.3	1
Visit ratio Physician:PA	67:1 (43:1, 146:1)	12:1 (6:1, 41:1)	14:1 (8:1, 47:1)	76:1 (49:1, 165:1)	98:1 (27:1, 7)

\* % visits calculations reflect only visits to PAs and physicians. Visits to other providers are excluded

## Recommendations

- Surveys should adopt sampling strategies that provide accurate representation of nonphysician clinicians.
- Accuracy of provider type identification should be evaluated, and strategies to increase accuracy should be developed.
- Surveys should use language that collects information on all providers.
- For provider surveys, variables should link providers from the same healthcare team so that the data will support analysis at the team level.

Roderick Hooker User:

Generalizable and generalizability are not words.

## Conclusions

- National health and healthcare surveys provide a rich and accessible source of data regarding patient care of PAs and NPs.
- Researchers using these surveys must account for the effects of survey design on accuracy and generalizability of findings regarding nonphysicians.

QuickTime™ and a TIFF (LZW) decompressor are needed to see this picture.

## Authors and Purpose

Richard E. Moses, DO,JD  
& Andrew Feld, MD,JD

- Temple University School of Medicine and School of Law
- Explore potential gastroenterologist liability when employing PA/NPs.
- How to improve patient safety and risk management - limiting liability

## Negligence

- Tort: a civil wrong for which a remedy may be obtained, usually in the form of damages
- Negligence: most common form of a malpractice action against a healthcare provider
  1. Provider has an obligation (duty) to care for the individual.
  2. Duty was violated (breached).
  3. Substandard practice caused harm.
  4. Plaintiff suffers compensable harm.

## Claims Against Physicians for Mistakes of PA/NPs

1. Lack of adequate supervision; large practice settings with multiple physicians increase the potential for inadequate supervision.
2. Untimely referral occurs when the nonphysician provider attempts to treat complicated conditions beyond their skills.
3. Failure to properly diagnose (misinterprets or lacks skill)
4. Inadequate examination
5. Negligent representation

## Cases

- *Andrews*  
Inadequate supervision caused negligence; failed to investigate a report of sexual impropriety with a patient treated by a PA.
- *MacDonald*  
Patient treated for hiatal hernia with reflux for months  
Presented with upper abdominal pain and given a laxative  
An ECG found an evolving anterior myocardial infarction.

## Legal Theories

- Vicarious liability
- Negligent supervision
- Negligent hiring

## Conclusion

- Hire only qualified PA/NPs who meet all education requirements.
- Knowledgeable of state rules
- Properly train and teach
- Due diligence in interviewing and hiring
- Proper supervision
- Regularly review the work of the PA.
- Appropriate titles used at all times
- Set high standards and review goals.
- Act as a positive role model for PAs.

## Nonphysician Clinicians in the Neonatal Intensive Care Unit: Meeting the Needs of Our Smallest Patients

Eric W. Reynolds and J. Timothy Bricker

2007; 119; 361-369 Pediatrics

This information is current as of April 3, 2007  
<http://www.pediatrics.org/cgi/content/full/119/2/361> located on the World Wide Web at:  
The online version of this article, along with updated information and services, is

QuickTime™ and a  
TIFF (LZW) decompressor  
are needed to see this picture.

Roderick Hooker User:

I'd switch 2 and 3 since NICU is spelled out in 3 and NICU is used in 2.

## Preamble

Preterm infants with long hospital stays put increasing pressure on the neonatology workforce.

- PAs and NPs have >25-year history working in NICUs.
- Neonatal Intensive Care Unit (NICU) tends to diminish the differences between PAs, NPs and doctors since much of the work is prescriptive and involves the family.

Neonatal Intensive Care Unit

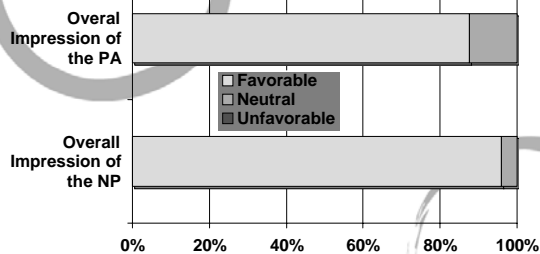


## PA Residency in Neonatology

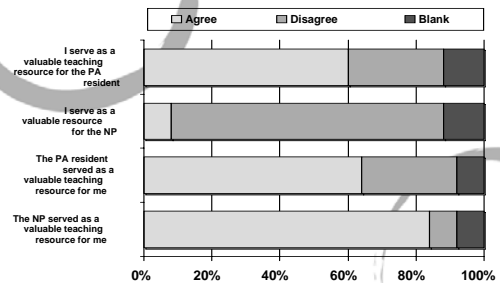


- University of Kentucky unable to recruit PA/NPs - therefore, a post-graduate training program is created.
- Draws on the presence of a university-based PA program
- Distills a 3-year physician fellowship to a 1-year PA fellowship.

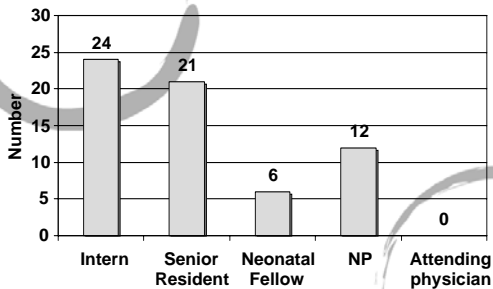
## Pediatric Resident Questionnaire



## Agree/Disagree with the Following Statements



## At What Level Will the PA Resident Function After Graduation?



## Conclusions

- Gaps in the neonatal workforce are growing; neonatal PAs offer an opportunity to help bridge some of the gaps.
- Without formal PA post-graduate programs, PA graduates are unlikely to select neonatology.
- The neonatal PA/NP appears to be interchangeable, but some differences do emerge.



### Academic Degrees and Clinical Practice Characteristics: the University of Washington Physician Assistant Program, 1969-2000

- Evans, TC, Wick, KH, Brock, DM, Schaad, DM, and Ballweg, RM.
- *The Journal of Rural Health* 2006; 22(3): 212-219



### The MEDEX NW Perspective and Contribution

- One of the oldest PA programs
- Various degree options offered but not required
- Graduates hold varied academic degrees
- Graduate database maintained and updated
- Graduates have been surveyed at intervals

### Survey of MEDEX Graduates

- Surveyed 10-year cohorts of graduates spanning 32 years
- A total of 880 eligible graduates
- A 54% response rate
- 54% in primary care
- 30% practicing in nonmetropolitan areas
- 43% reported serving medically underserved populations

### Highest Academic Degree Attained

Graduate Cohort	No Degree	AA/AS	BA/BS	Master's or Higher	n
	%	%	%	%	
1970-1975	45	14	19	22	58
1976-1980	26	10	43	21	42
1981-1986	36	23	32	9	53
1987-1991	27	13	46	15	48
1992-1996	21	15	51	13	121
1997-2000	15	15	60	10	156
Total	24	15	47	14	478

### Association of Highest Degree with Specialty

Specialty	No Degree	AA/AS	BA/BS	Master's or Higher	Total
	%	%	%	%	% (n)
Primary Care	66	43	52	48	54 (231)
Emergency/ Urgent	12	22	18	13	16 (71)
Med/Surg Specialties	15	23	23	25	21 (92)
Other	7	12	7	13	9 (37)
Total	100	100	100	99	100 (431)
1 <sup>o</sup> Care OR (CI)	1.95 (1.22-3.11)	0.62 (0.37-1.04)	0.91 (0.62-1.33)	0.78 (0.44-1.39)	
P value	.007	.09	.69	.48	

### The Move to Advanced Academic Degrees for PAs

- What is to be gained?
  - Competition with other professions?
  - Greater expertise?
- What might be lost?
  - Providers who work in primary care and with rural and underserved patients
  - Applicants with a great deal of healthcare experience but not academic achievement

## Findings

- MEDEX graduates with no academic degree were the group most likely to practice in primary care and to “demonstrate a commitment to primary, rural, and underserved healthcare”.
- Authors raise questions with regard to the possession of higher academic degrees and likelihood of PA deployment and utilization in primary care, and practices in rural and underserved communities.

## Comments

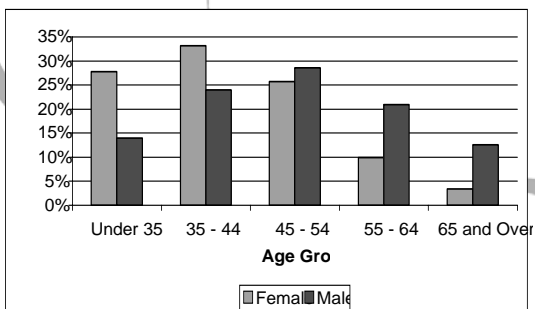
The movement of PA education to award the Master’s Degree is unmistakable - at least 100 of the 136 accredited programs now award the  Master’s, including MEDEX.

*Tim Dahl*  
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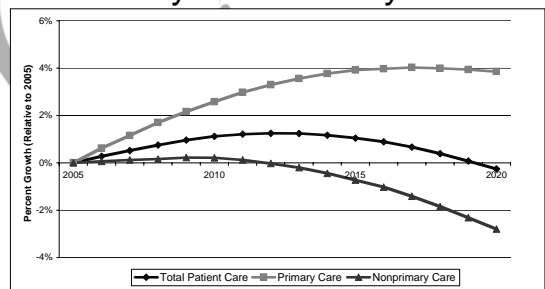
## Issues and Questions

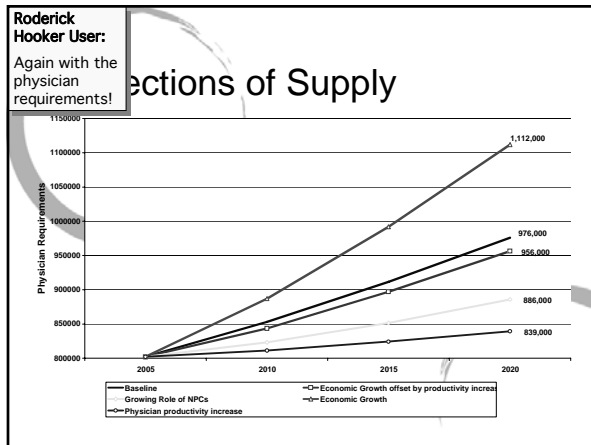
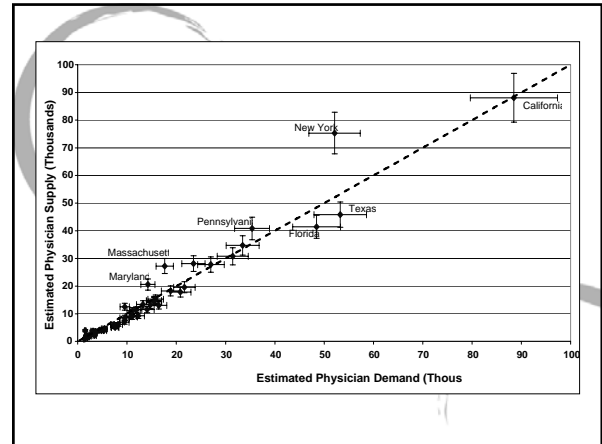
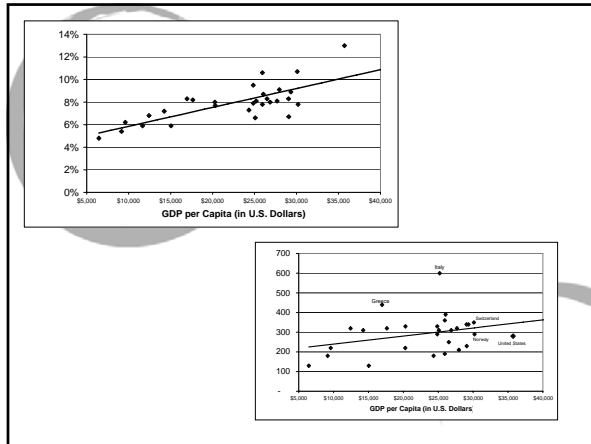
- Why does physician supply matter so much?
- Given past efforts, what gives us any confidence in current projections of physician supply and demand?

## Physician Distribution 2005



## 2000-2020 Growth Primary/Non-Primary Care





- ### Assumptions
- The number of active NPCs will increase 60 percent between 2005 and 2020.
  - All NPCs trained will be employed and provide physician services.
  - On average, each NPC will provide 40 percent of the work currently provided by a physician.
  - Under this scenario, by 2020, physician requirements would be 90,000 less than baseline.

### Caution

- The authors quote Reinhardt (2002): It is a “daunting enterprise...to estimate the physician surplus or shortage one or two decades into the future. Any of the variables in the equation can change over time, sometimes in unforeseen ways.”

- ### Summary
- The quality of research we reviewed varies but is generally good.
  - No studies are type IA research.
  - Majority of papers are authored by non-PAs.
  - Few PA research studies were theory-based or driven by a hypothesis .
  - PA-centered research appears to wax and wane, although 75% of PA programs are graduate level.