

# **Mobility of North Carolina Physician Assistants and Nurse Practitioners between Primary Care and Non-primary Care Specialties: a longitudinal study**

**Perri Morgan, PA-C, PhD**  
**Department of Community and Family Medicine,**  
**Duke University Medical Center** PM1

**Erin Fraher, MPP, PhD**  
**Cecil G. Sheps Center for Health Services  
Research**

Slide 1

---

PM1

Erin--check your title?

Perri Morgan, 4/17/2009

# Background

- Medical workforce shortages are often specialty-specific
  - Primary care
  - Oncology
  - Nephrology
- Medical providers who can move among specialties could potentially be deployed to address specialty shortages

# Specialty mobility

- Physicians: long specialty training periods lead to low potential for specialty mobility.
- Nurse practitioners (NPs): train within broad specialty categories and may be mobile within those categories.
- Physician assistants (PAs) have generalist training, and can change specialties freely.

# Is mobility theoretical or real?

- PAs and NPs have the *potential* to move among specialties, but we know little about:
  - Frequency of change among specialties
  - Factors associated with tendency to change specialty
  - Factors that could promote or inhibit specialty change

# Research questions

- What proportion of PAs and NPs change between primary care and non-primary care specialties?
- What is the predominant direction of this change?
- Is changing between primary care and specialty associated with years in practice, age of practitioner, and gender?

# Data source

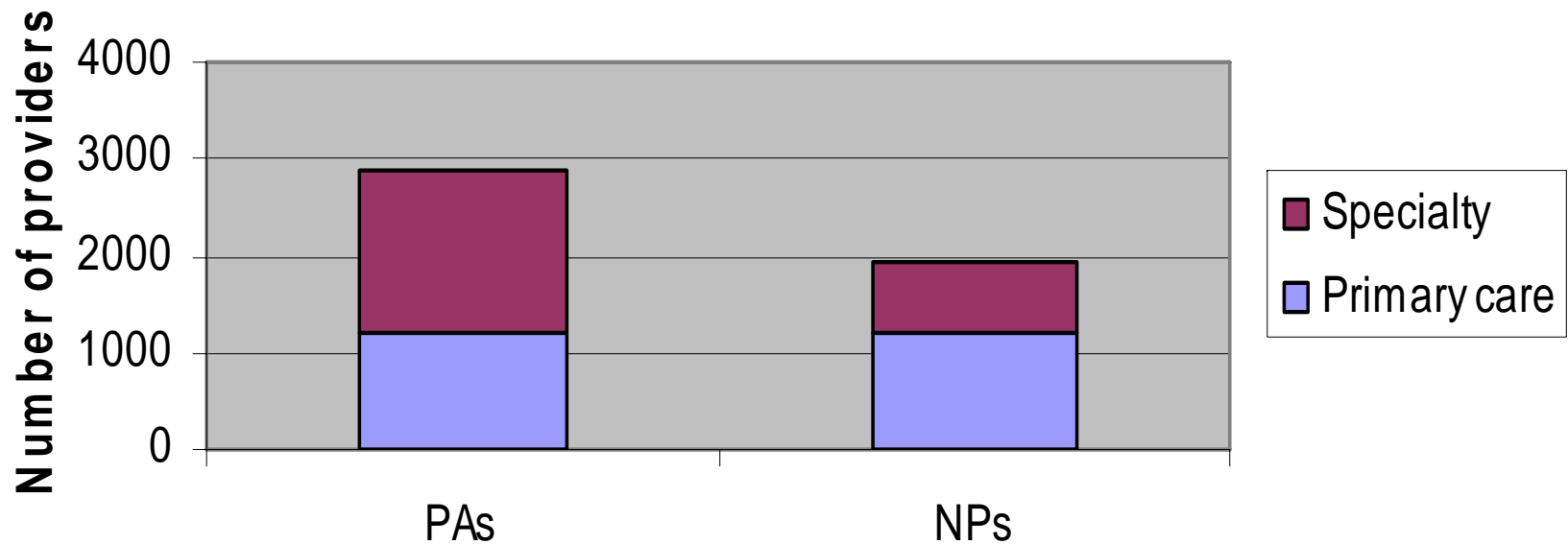
- North Carolina Health Professions Data System, 1996-2007
- State licensure data
- Practitioner information is collected annually as part of licensure/re-registration process

# Methods

- Practitioners reported specialty
- Primary care defined as:
  - family medicine
  - general medicine
  - general internal medicine
  - general pediatrics
  - obstetrics/gynecology
- All other specialties defined as not primary care

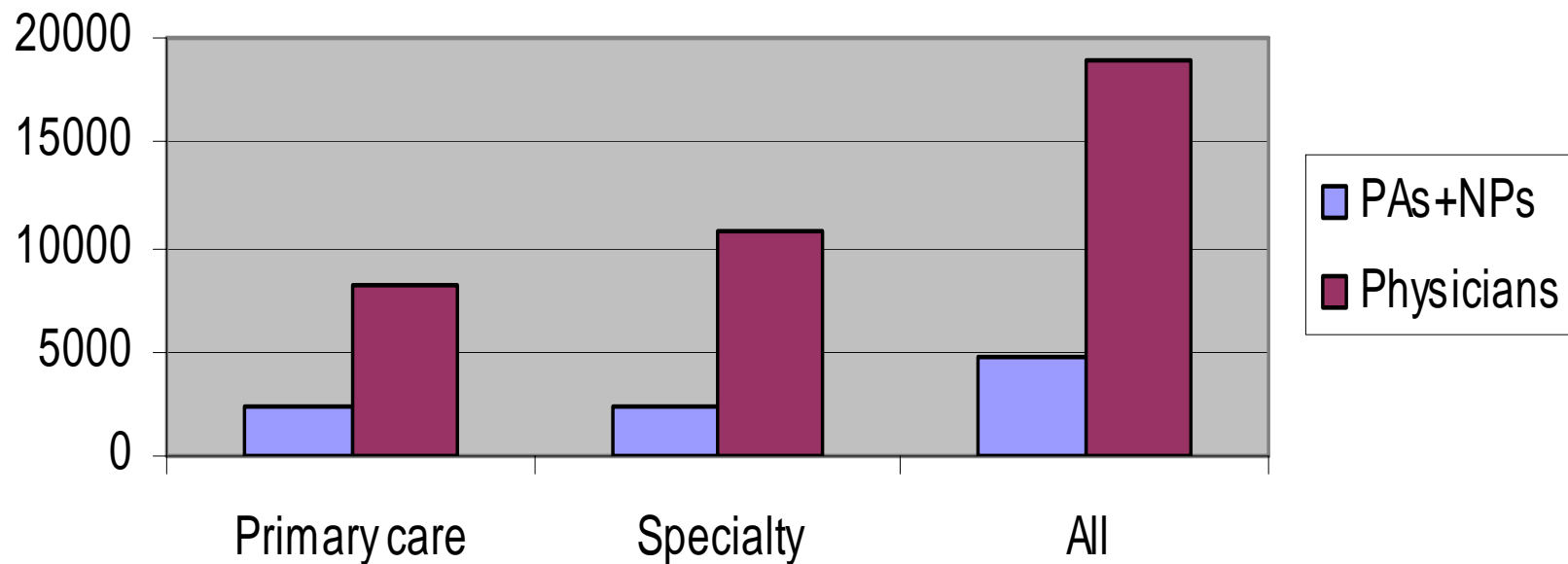
# Specialty distribution 2007

**Active physician assistants and nurse practitioners in North Carolina in 2007**



Data: North Carolina Health Professions Data System

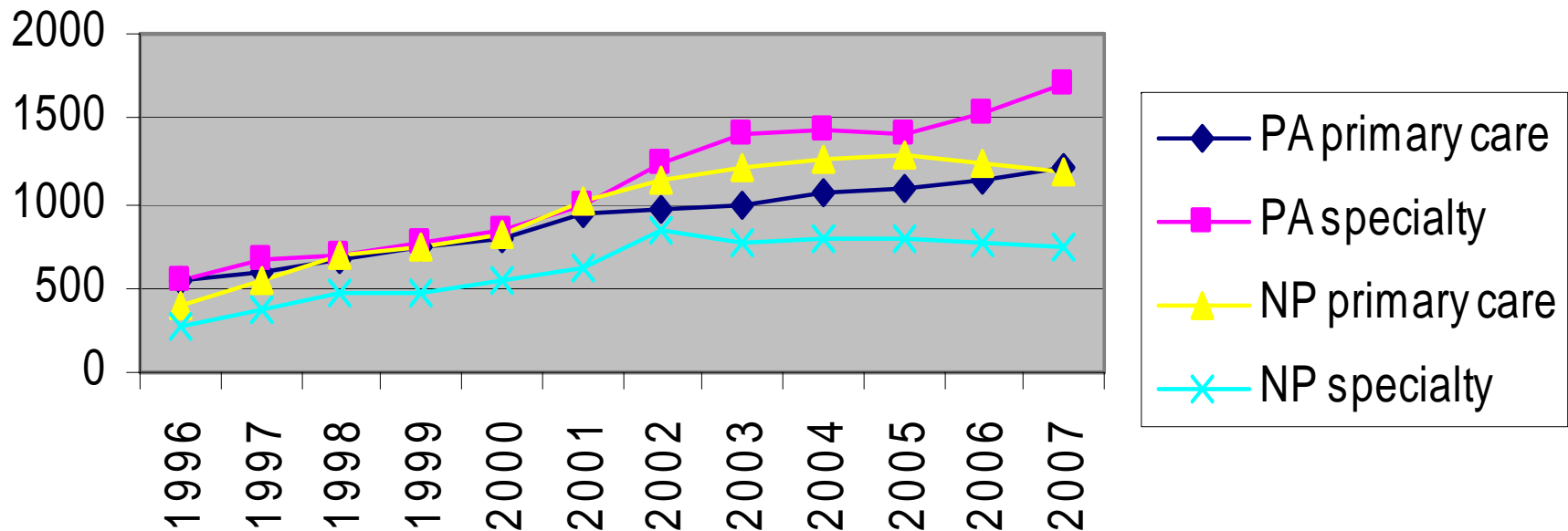
## Primary care and specialty practitioners, North Carolina, 2007



There is approximately one PA or NP for every 4 physicians in North Carolina

# Trends in specialty distribution

**Number of NC PAs and NPs in primary and specialty care, 1996-2007**



Data: North Carolina Health Professions Data System

# Mobility between primary care and non-primary care specialties

	PA	NP
Persons observed (N)	4106	3899
Persons who changed between primary care and specialty (N)	803	400
Persons who changed between primary and specialty (%)	20%	10%

# Direction of mobility

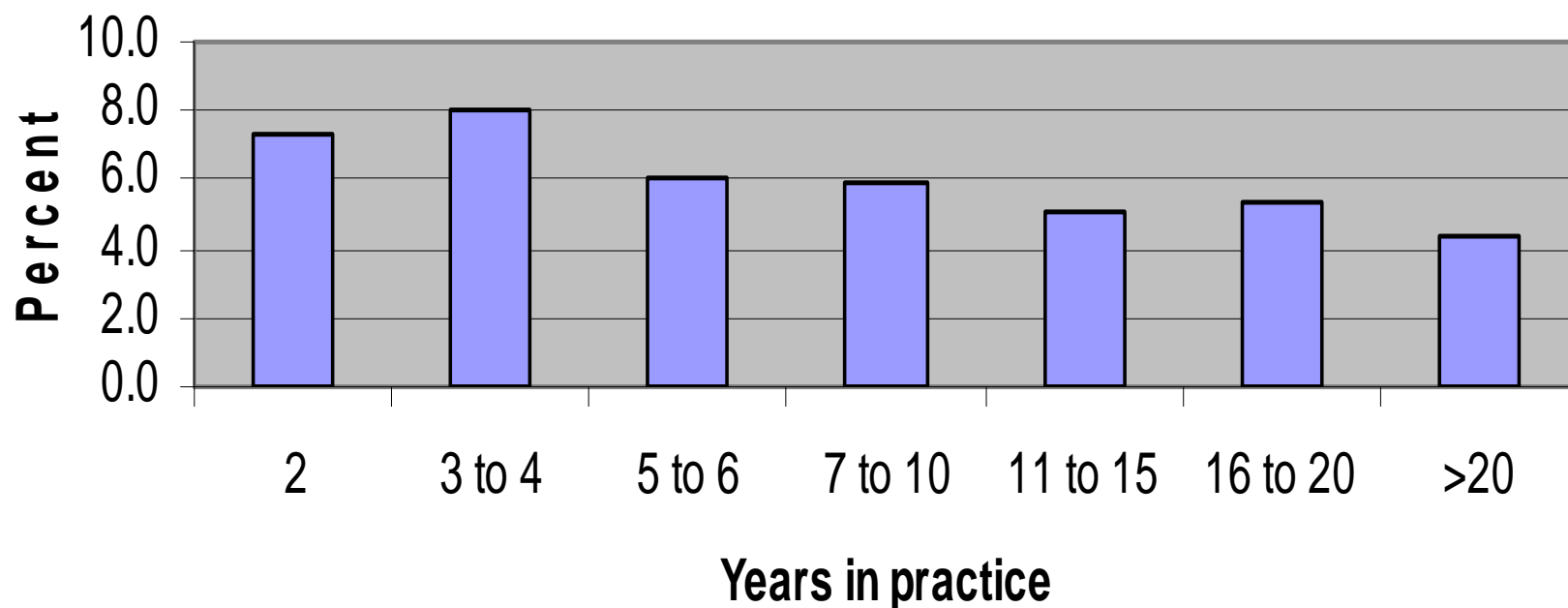
	PA	NP
		N (%)
Specialty changes* (N)	1121	540
Changes to primary care from specialty N/(%)	512 (46%)	292 (54%)
Changes to specialty from primary care (N)	609 (54%)	248 (46%)

\*The sum of specialty changes is higher than the number of persons who changed on the previous slide because some practitioners changed more than once.

# What factors are associated with changing specialty?

- Years in practice
- Gender
- Practitioner age
- Specific practice specialty

## Percent of PAs in each category of years in practice who changed between primary care and specialty

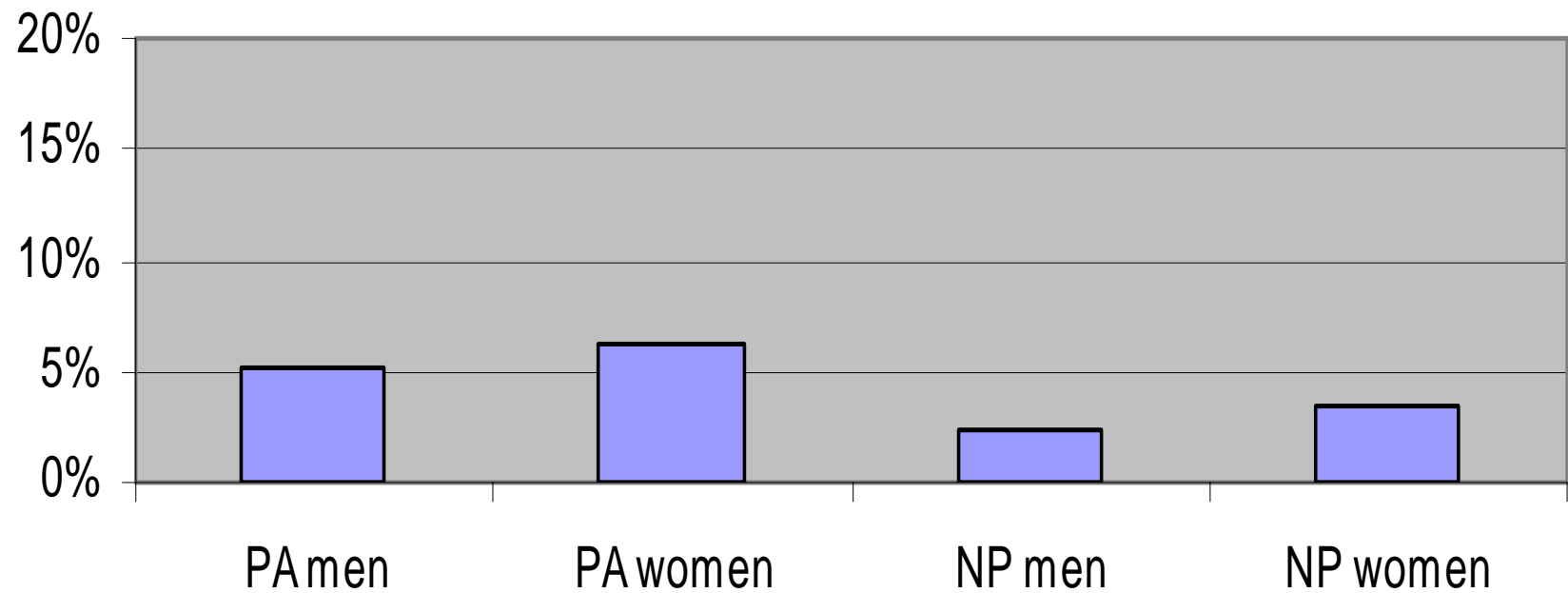


$P < .0001$

38% of PA observations are missing data for years in practice.

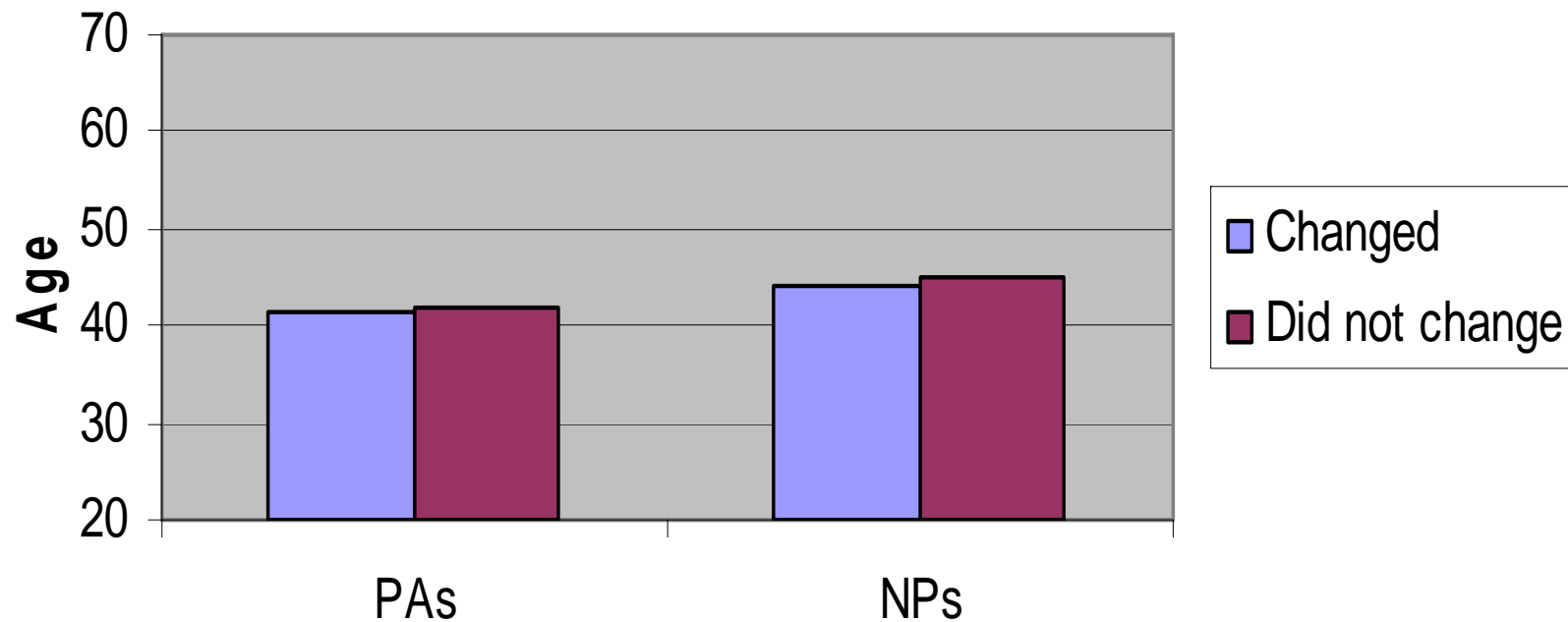
Data for years in practice was not collected for NPs after 2002.

## Percent of men and women who changed between primary care and specialty



For PAs,  $p=.004$ . For NPs,  $p=.1$

## Mean age of PAs and NPs who changed and did not change between primary care and specialty practice



For PAs,  $p=.3$

For NPs,  $p=.02$

# Summary of factors associated with specialty change

- For PAs, specialty change may be most common within the first four years of practice.
- Female PAs were more likely to change specialty than men.
- For PAs and NPs, age differences were very small between those who did and did not change specialty.

# Specialties most often moved to after primary care

<u>Physician Assistants</u>	<u>Percent</u>	<u>Nurse Practitioners</u>	<u>Percent</u>
Emergency medicine	20	Gynecology	19
Other specialty	6	Geriatrics	10
Psychiatry	6	Geriatric family practice	10
Geriatric family practice	5	Public health	6
Occupational medicine	4	Occupational medicine	5
Cardiovascular disease	4	Cardiovascular disease	5
Neoplastic disease	4	Obstetrics/gynecology critical care	4

# Limitations of study

- Limited to 11 years of follow-up
- Missing data for years in practice

# Conclusions

- In North Carolina, 20% of PAs and 10% of NPs changed between primary care specialty care within 11 years.
- A larger proportion of NPs than PAs work in primary care.
- Although movement in both directions was similar, PAs were slightly more likely to move toward specialty care and NPs were slightly more likely to move toward primary care.

# Future research

- Identify factors associated with specialty choice
- Determine the specialties in which PAs and NPs are most effective and cost-efficient
- Test strategies to attract PAs and NPs to specialties where they can contribute most to access, quality and cost.

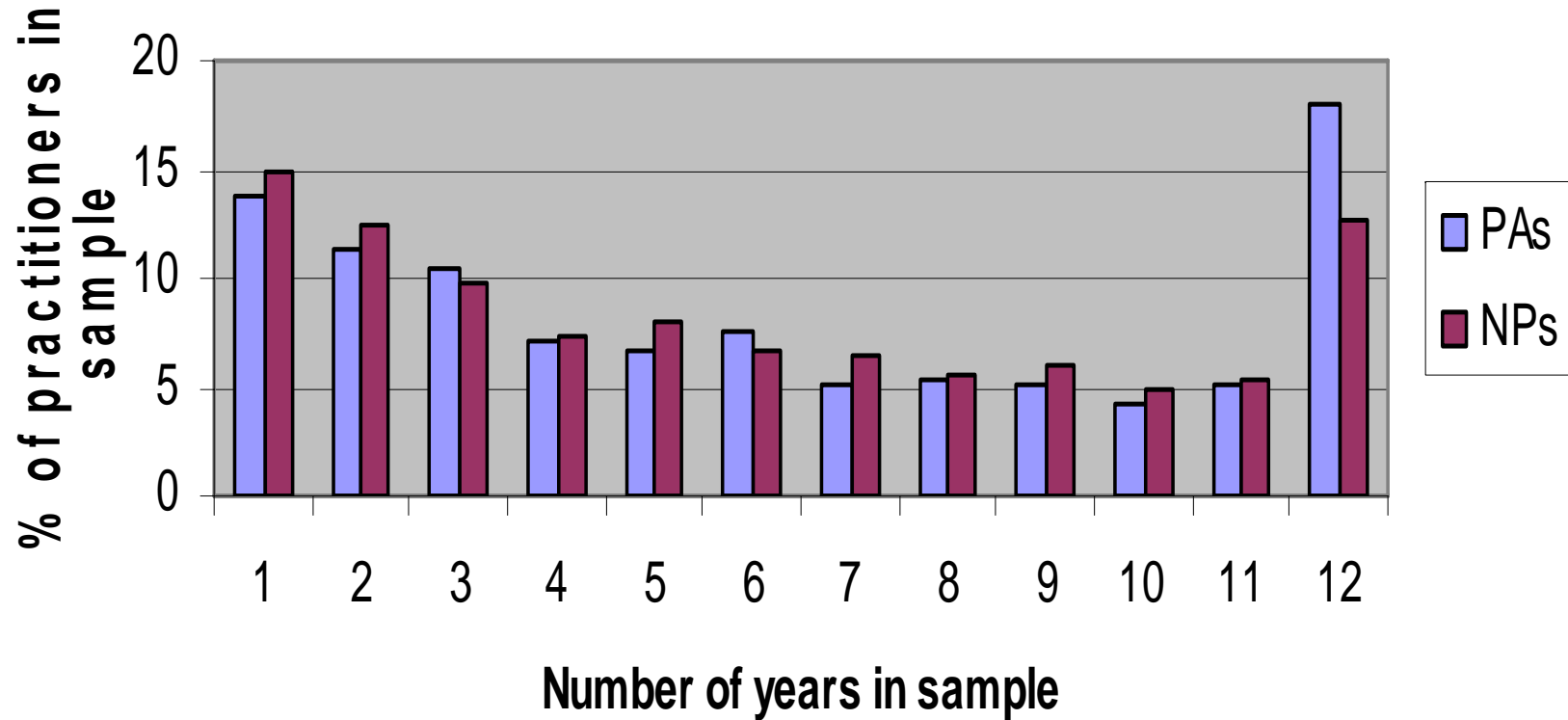
# Policy relevance

- Workforce policy can take advantage of PA and NP specialty mobility by employing strategies to influence PAs and NPs to migrate toward the specialties where they can contribute most to access, quality, and cost of health care.

# Supplemental slides



## Number of years practitioners are in the sample



Mean # years in sample:

PA 6.2 years

NP 5.8 years

# Identify factors associated with specialty choice

- Impact of job availability
- Impact of individual preferences and background
- Impact of training
- Impact of financial incentives

# Test strategies to attract PAs and NPs to specialties with shortages

- Restructure reimbursement to place higher value on primary care (to increase primary care salaries)
- Expand loan forgiveness programs
- Maximize use of PA/NP skill set
- Educate specialties with low use of PAs/NPs about how to use them effectively and efficiently

# Determine the specialties in which PAs and NPs are most effective and cost-efficient

- Tasks in some specialties lend themselves to delegation to a PA or NP
  - Example: PAs in dermatology and emergency medicine
- PAs/NPs bring more economic value to specialties where the salary differentials between PAs/NPs and physicians are greatest
  - Example: orthopedic surgery