

Role of the Orthopaedic Physician Assistant and Residents



Disclosures

- Depuy Synthes – Johnson & Johnson
 - Consultant

Agenda

1. Orthopaedic Attending Surgeon / PA relationship
2. PA's in Orthopaedics
3. Demographic Characteristics of PA's in orthopedics versus PA's in other specialities
4. Practice Settings of PA's in orthopaedics vs PAs in other specialties
5. PA productivity in orthopaedics
6. Income Range of PA by specialties
7. Job satisfaction, burnout and career plans of PA's in orthopaedics vs PA's in other specialities
8. PA contributions to resident education

A COMPREHENSIVE ANALYSIS OF THE PHYSICIAN ASSISTANT/ASSOCIATE ORTHOPEDICS WORKFORCE

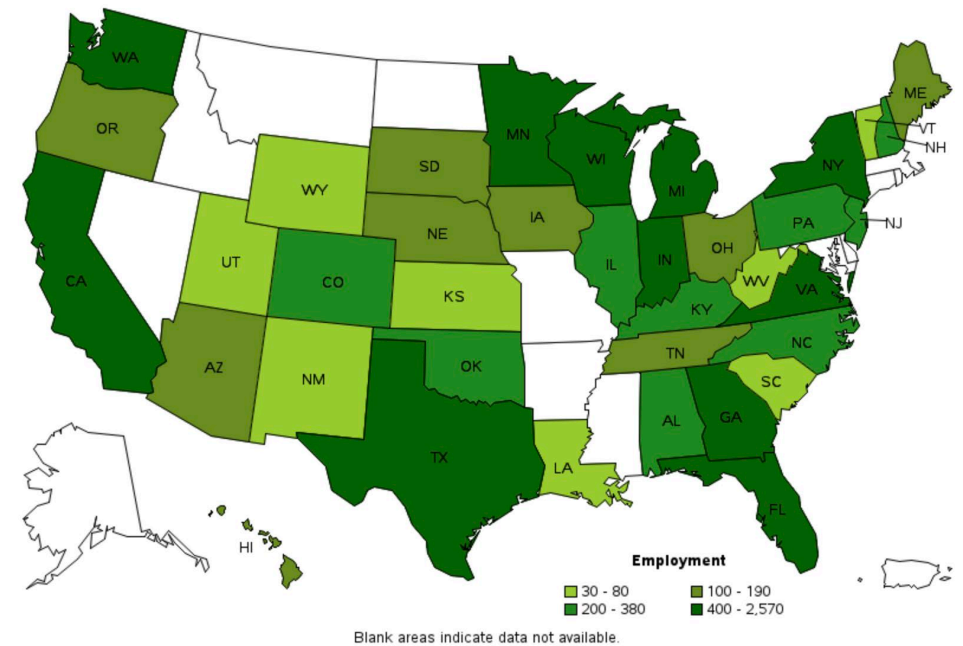
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- Increased demand for Orthopaedic Surgeons and concurrent growth of PA's
- Analyzed characteristics of PAs in orthopaedics to understand how they compare to Pas across all other medical and surgical roles in the US
- National cross-sectional study
- 2022 PA work-force data from the National Commission of the Certification of Physician Assistants
- Descriptive and bivariate data assessing PAs in Orthopaedics versus all other medical Fields on Various factors related to demographics, education/training, practice characteristics and other important traits

Introduction

- Concerns about the potential inability of the surgical workforce in the United States to meet future population demands first emerged in the 1970's¹
- The issue persisted with predictions indicating a shortage of physicians extending into the 2030's²
 - Increased reliance of physician assistants (PA's) as a source of specialized labor.
 - PA's introduced in the American medical workforce in the mid-1960's
 - Initially education was funded by the federal government for the first few decades to increase access to health care services³
 - The number of PA's has significantly increased
 - As of 2022, 168,318 board certified PA's
 - Number of PA's practicing on a medical specialty continue to rise⁴

Employment of orthopedic surgeons, except pediatric, by state, May 2023



Introduction

- Orthopaedic Surgery has been among the top disciplines chosen by PA's since at least 2008
- In 2008 the American Academy of PA's (AAPA) identified orthopaedic surgery as the 3rd most common specialty⁵
- National Commission of the Certification of Physician Assistants (NCCPA)⁴
 - 18.6% of PAs work in surgical subspecialty
 - Orthopaedic Surgeon 10.7%
 - Cardiothoracic vascular surgery 3.3%
 - Neurosurgery 2.5%



Introduction

- Why is orthopaedic surgery growing in terms of PA employment?
 - Suggest a need for more providers in Orthopaedic Surgery
 - Physician shortage estimated to increase from 15,800 to 30,200 from 2019 to 2034⁶
 - Orthopaedic surgery is top 10 surgical subspecialty with highest deficiency in terms of supply and demand by 2025⁷
 - Rising number or retiring orthopaedic surgeons with number of people needing orthopaedic care increasing⁸⁹
 - Nationwide Inpatient Sample and US census Bureau from 1990 to 2003
 - Estimated demand for THA increasing by **137%**
 - Estimated demand for TKA increasing by **601%**



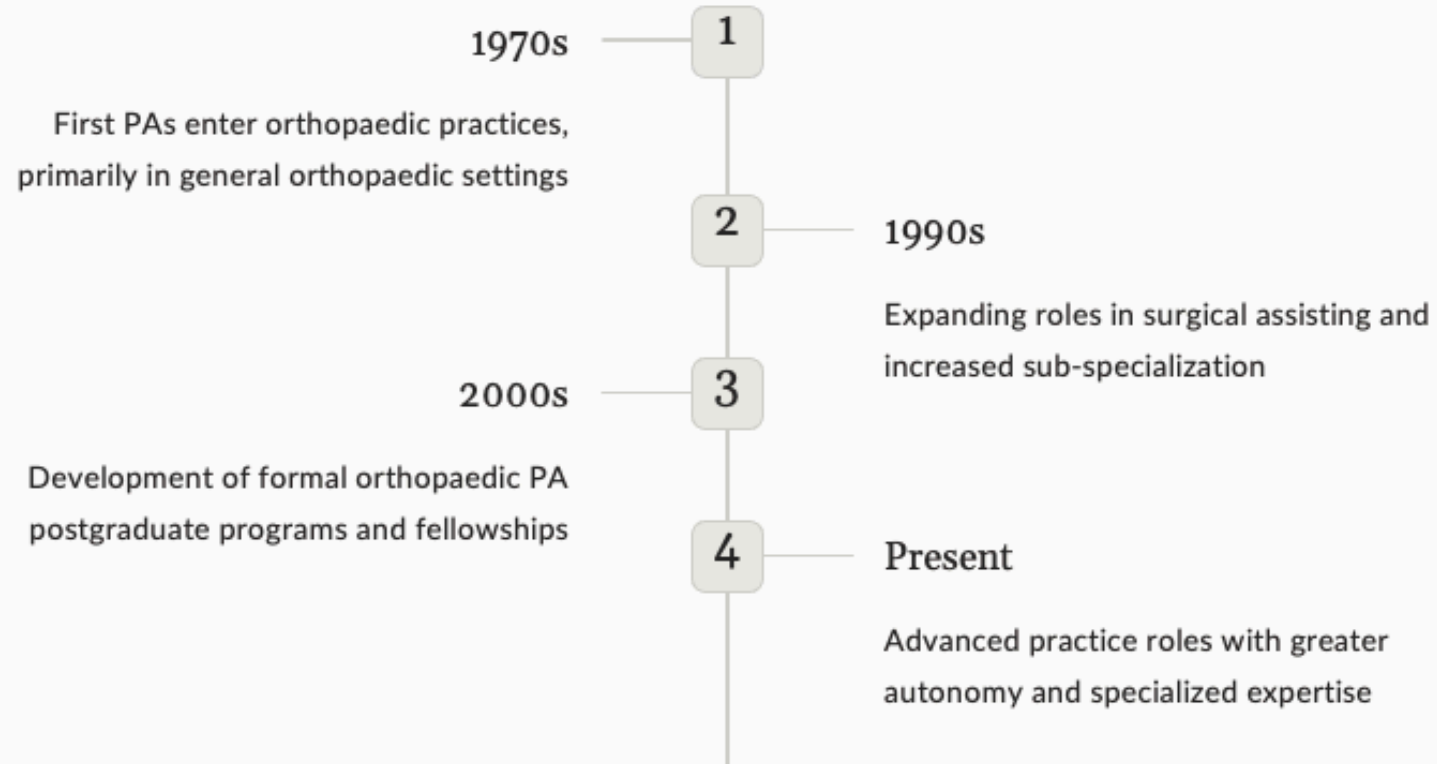
Physician Shortage

- Why not train more orthopaedic Surgeons?
 - Rate limiter
 - Prolonged education and training requirements
 - 13 years minimum usually plus a fellowship (14 years) with recent trends in physician development demonstrating a 1-2 year research focus or personal time away from medicine (gap year)
- Patients are requiring orthopaedic care faster than we can replace retiring orthopaedic surgeons
 - Abbreviated PA education offers **more immediate** solution to address the growing demand for orthopaedic medical care



Evolution of the PA in Orthopaedic Surgery

The integration of PAs into orthopaedic practice has experienced remarkable growth over the past four decades:



Current Utilization Models of PA's in Orthopaedic Surgery

Inpatient Management

- Daily rounds and patient assessment
- Care coordination with interdisciplinary teams
- Discharge planning and documentation
- Management of postoperative complications

Outpatient Clinic

- New and follow-up patient evaluations
- Minor procedures (injections, aspirations)
- Fracture management and casting
- Independent and supervised clinics

Surgical Assistance

- First or second assist in major procedures
- Preoperative preparation
- Retraction and exposure management
- Closure and dressing application

Most high-performing orthopaedic practices utilize PAs across multiple domains rather than limiting them to a single role. The **flexibility** of PAs to function in various clinical settings is one of their greatest assets to an orthopaedic practice.

Collaborative Care Models: Optimizing PA and Resident Relationships



Parallel Care Teams

PAs manage their own patient panel with attending oversight, while residents maintain separate educational service. Maximizes educational value of cases assigned to residents.



Educational Hierarchy

Experienced PAs supervise and teach junior residents while senior residents develop leadership skills. Creates educational pyramid with attending at top.



Integrated Approach

PAs and residents work as cohesive team sharing responsibilities based on skills rather than roles. Maximizes efficiency while preserving educational opportunities.

Educational Benefits: How PA's support Resident Learning and Development

1

Procedural Training

Experienced PAs serve as skilled teachers for basic procedures like reductions, injections, and casting. This frees attending surgeons to focus on advanced techniques with senior residents.

2

Clinical Reasoning

PAs with specialized expertise provide junior residents with practical approaches to common conditions, helping bridge the gap between textbook knowledge and clinical application.

3

System Navigation

Long-term PAs possess institutional knowledge that helps residents navigate hospital systems efficiently, from ordering protocols to interdepartmental relationships.

4

Work-Life Balance

PA coverage reduces resident burnout by providing appropriate coverage for routine tasks, allowing residents to focus on high-value learning opportunities and personal wellbeing.

"Our experienced PAs have become some of our most valuable educators for junior residents, particularly in teaching practical clinical skills that aren't emphasized in medical school."

— Dr. Sarah Johnson, Residency Program Director

Utilizing the physician assistant role: case study in an upper-extremity orthopedic surgical program

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- Case Study involving interviewing health care providers and patients started after adding PA in orthopaedic upper-extremity surgical program in Alberta, Canada.
 - PA enhanced patient care and efficiency
 - Improvements noted in preoperative and postoperative time
 - Adding PA's
 - Increased surgeon availability
 - Increased hip and knee replacement procedural volumes
 - Reduced patient wait times
- Monetary benefits obvious after addition of PA's



Financial Considerations

\$112K

Average PA Salary

Annual cost for orthopaedic PA (varies by region and experience)

\$76K

Resident Salary

Average PGY-3 orthopaedic resident compensation

\$150K

Revenue Generated

Average annual net revenue contribution per PA after expenses

\$89K

GME Funding

Average Medicare support per resident position

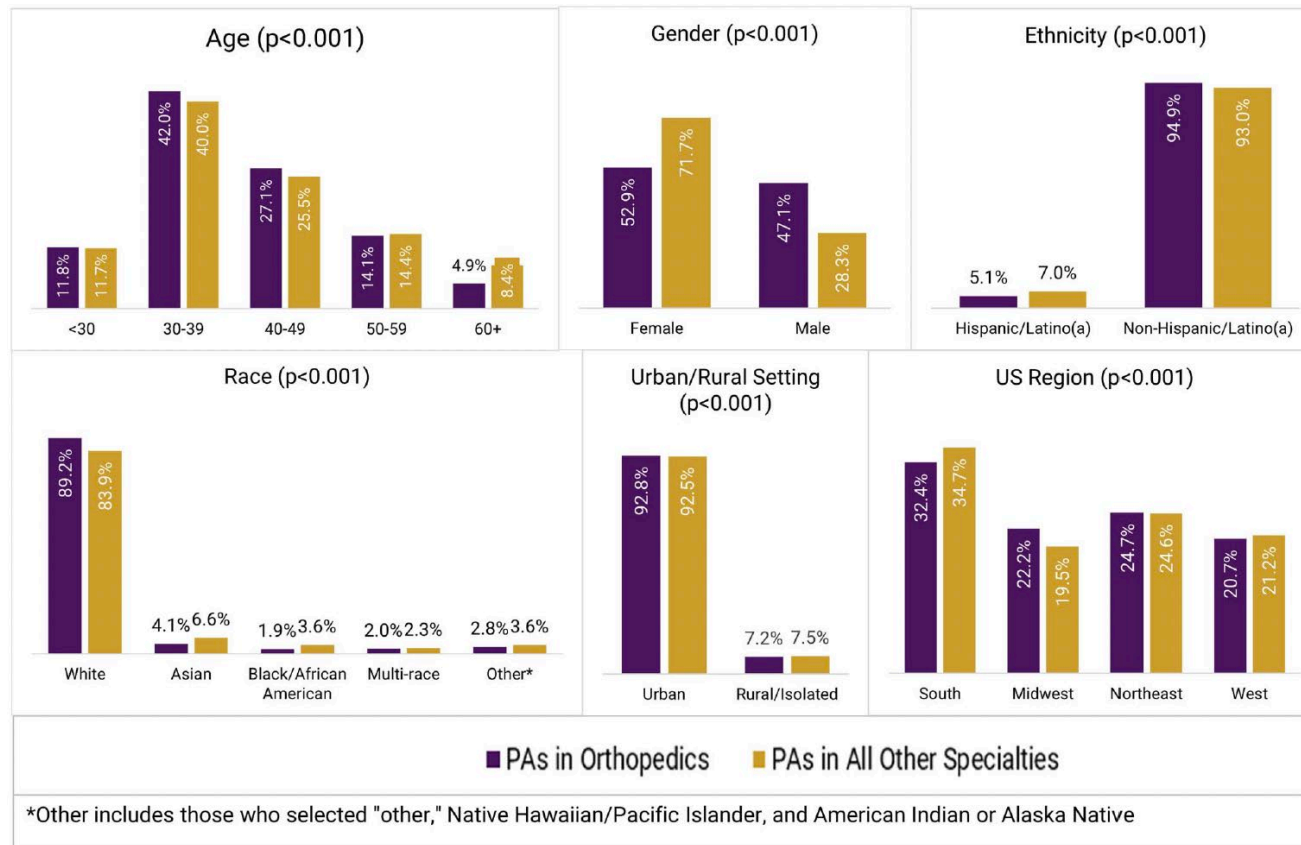
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- Cross-sectional study using 2022 PA professional Profile date from the NCCPA
- Similar studies previously completed in psychiatry, geriatrics and dermatology
- 83.7% profile completion rate in 2022 dataset
 - Comparative analysis between PA's in orthopaedics and those in other subspecialties
 - Of 158,470 board certified PA's, 118,495 were employed in at least one clinical position
 - 117,748 provided responses
 - 10.7% (12,599) were working in orthopaedics

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- Comparison of demographic characteristics between PA's in orthopaedics
 - More likely male(47.1% vs 28.3%)
 - Younger (median age 38 vs 39)
 - Predominately working in urban locations

Fig. 1
Demographic characteristics of PAs in orthopedics versus PAs in all other specialties. PAs = physician assistants.

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- More likely to practice in private medical offices compared to other specialties (55.3% vs 35%)
- Less likely to be hospital based (37% vs 42.2%)
- 50% of ortho PA's reported that they often worked more than 40 hours a week

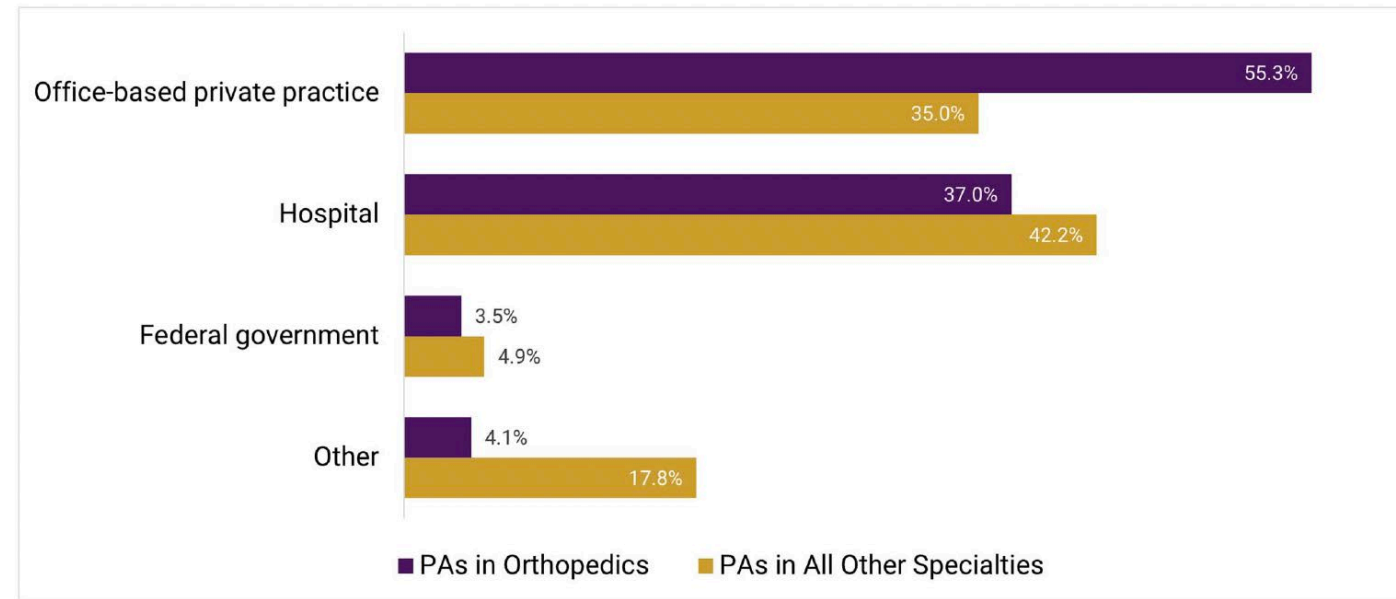


Fig. 2
Practice setting of PAs in orthopedics vs. PAs in all other specialties ($p < 0.001$). PAs = physician assistants.

THE PHYSICIAN ASSISTANTS WORKFORCE

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- Self reported income
 - Ortho (median reported): \$125,000
 - Others: \$115,000
- Ortho PA's also reported higher job satisfaction
 - 88.6% vs 83.2%
- Fewer burnout symptoms
 - 26.6% vs 32.9%
- 6.3% reported plans to leave their current position within 12 months.

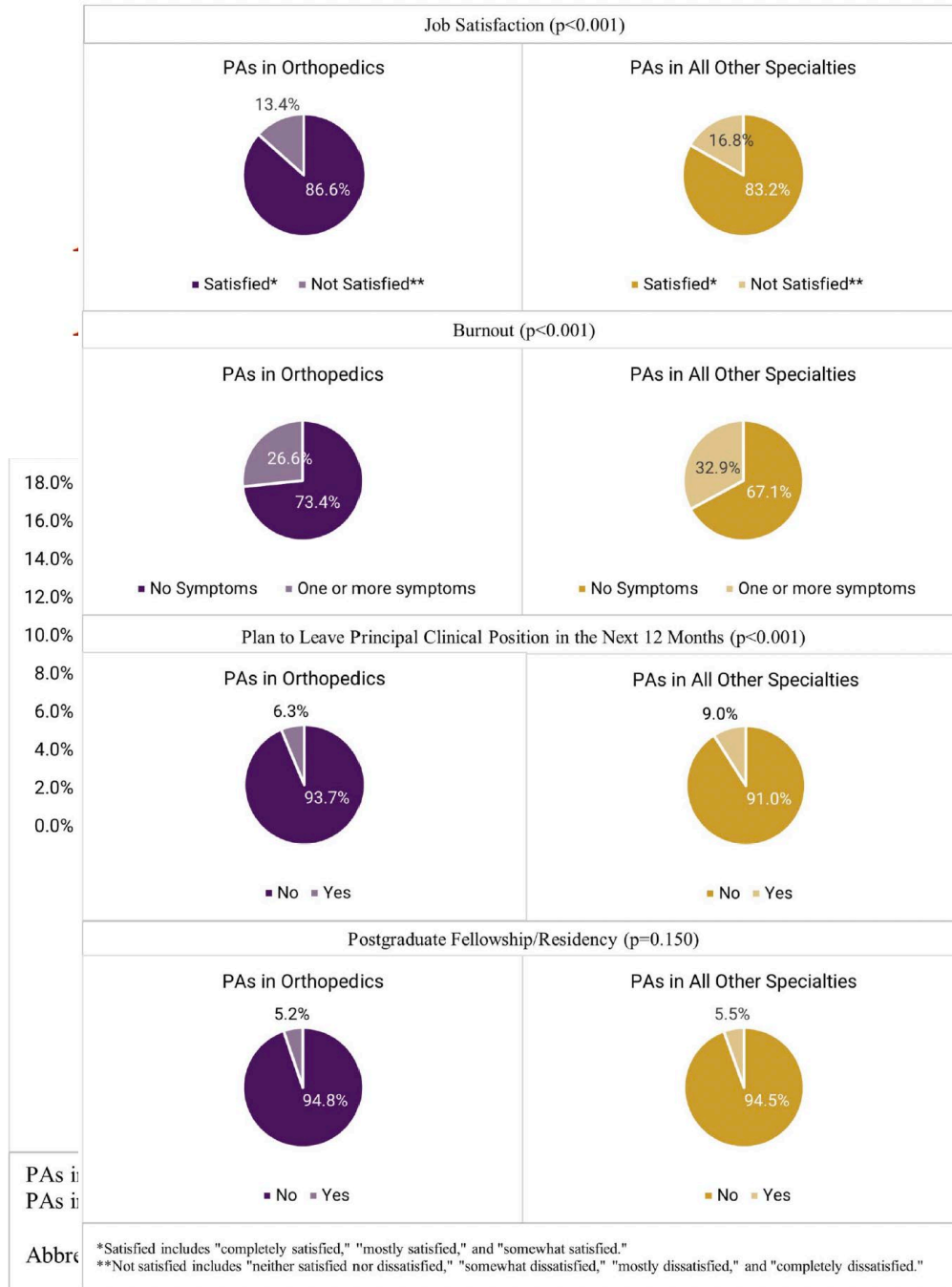


Fig. 4
Income range
Fig. 5
Job satisfaction, burnout, and career plans of PAs in orthopedics vs. PAs in all other specialties. PAs = physician assistants.

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- 12,599 PAs work in in orthopaedics
 - 39% increase from 2015
- 50% women, majority white and dwell in urban regions
- Ortho PA's may work longer hours
 - Paid an average salary 9% higher than others
 - Considerably high job satisfaction
- Up to 10% complete a post graduate orthopaedic fellowship/residency
- 87% work in both the operating room and clinical setting.
- Increasing presence of PA's in ortho likely underscores need for more providers

Conclusion

- PA's in orthopaedics are vital in the health care workforce by providing accessible, safe and affordable patient care
- Orthopaedic Physician Assistants
 - Decrease patient wait time
 - Increase patient access
 - Are cost effective
- Improve exposure and help facilitate resident education



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