

# Comparison of Procedures Performed by PAs and NPs in the Elderly

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# INTRODUCTION



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# Background

- Procedures: Patient-care manual tasks
- Currently 17% of Americans are  $\geq$  65 years old
  - Projected to be 20% of population by 2030
- The number of PAs and NPs in clinical practice continues to grow
- Little is known about the primary care procedures performed by PAs and NPs for elderly in outpatient settings



Objective:

# **What Outpatient Primary Care Procedures do PAs & NPs Perform for their Elderly Patients?**



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# METHODOLOGY



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# Methodology

- Council of Academic Family Medicine recommended procedures
  - Core list of 68 procedures family physicians should be able to perform upon completion of residency
  - Used as proxy for core primary care procedures
- CAFM Recommended procedures matched to 2019 CPT codes
  - Required modification of the CAFM Recommended Procedure List (mCAFM)
- CMS Medicare Part B database explored: filtered by PAs & NPs then filtered by mCAFM CPT codes
- Examined 2019 – Not affected by SARS-CoV-2 pandemic
- Marshall B. Ketchum University IRB approved



# Council of Academic Family Medicine Recommended Procedures (CAFM)

**Core Procedures for Family Medicine Residents.** Outpatient only; pediatric and reproductive health procedures excluded)  
Adapted from the 2018 CAFM Consensus Statement.

CAFM Procedure Cluster	Procedures
Anesthesia	Topical anesthesia. Local anesthesia/field block
	Digital block
	Peripheral nerve block (other than digital nerve)
Cardiovascular	Arterial Puncture
EENT	Removal of foreign body from ear or nose
	Cerumen Disimpaction
	Anterior nasal packing for epistaxis
	Fluorescein examination of eye without slit lamp
	Superficial Conjunctival foreign body removal
	Slit Lamp Examination
Gastrointestinal and colorectal	Removal of superficial corneal foreign body
	Nasogastric tube.
	Fecal Disimpaction. Digital rectal exam.
	Anoscopy
	Paracentesis
	Incision and drainage of perianal abscess
	Excision of thrombosed external hemorrhoid
Remove perianal skin tags	
Genitourinary	Bladder catheterization
Musculoskeletal	Simple closed reduction of subluxed joint without sedation (e.g. nursemaid elbow)
	Upper and lower extremity splints
	Upper and lower extremity casts
	Injection/aspiration of joint, bursa, ganglion cyst, tendon sheath, or trigger point
	Reduction of shoulder dislocation

CAFM Procedure Cluster	Procedures
Pulmonary	Handheld spirometry
	Thoracentesis
Skin	Remove corn/callus
	Drain subungual hematoma
	Laceration repair with tissue glue or skin staples
	Removal of skin tags
	Biopsies (punch, shave), including vulvar biopsy
	Excisional biopsy
	Destruction of skin lesion (including warts) using cryosurgery, RF/electrocautery, chemical ablation, or intralesional injection
	Remove ingrown nail, or full toenail
	Incision and drainage of abscess, including paronychia
	Simple laceration repair with sutures
Women's Health	Fine needle aspiration of cyst (including breast)
	Needle biopsy of solid mass
	Pap smear collection
	Bartholin cyst management (Word catheter)
	Remove cervical polyp
	Endometrial biopsy
	Cervical dilation
Colposcopy	
	Cervical cryotherapy
	Uterine aspiration/D&C

Adapted from: Association of Family Medicine Residency Directors. CAFM Consensus for Procedural Training. AFMRD website. Accessed December 13, 2022. <https://www.afmrd.org/page/cafm>



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# Necessary Modifications to CAFM Recommendations

- Merged Ocular category with EENT
- Excluded Ultrasound and Neurological (LP) categories
- Excluded procedures irrelevant to elderly, e.g., IUD insertion, neonatal umbilical vein cannulation
- Excluded procedures with no matching CPT code, e.g., DRE
- Merged skin procedures, i.e., how wound closed vs. size and complexity of wound





# Modified Council of Academic Family Medicine Recommended Procedures (mCAFAM)

Adapted to Match CPT codes

CAFAM Procedure Cluster	CAFAM Procedures Modified to Match CPT Categories	2019 CPT Codes
Anesthesia	Digital and peripheral nerve block	64450
Cardio-vascular	Arterial Puncture	96373
Eyes, Ears, Nose, & Throat (EENT)	Anterior nasal packing for epistaxis	30901
	Cerumen disimpaction	69209, 69210
	Removal of foreign body from ear or nose	30300, 30310, 30320
	Superficial conjunctival foreign body removal (without slit lamp)	65205, 65210, 65220
Gastro-intestinal and colorectal	Anoscopy	46600
	Placement of nasogastric or enteral feeding tube	43753
	Paracentesis	49082
	Incision and drainage of perianal abscess	46050
	Excision of thrombosed external hemorrhoid	46083
	Remove perianal skin tags	46220, 46230
Genito-urinary	Bladder catheterization	51701, 51702
Musculo-skeletal	Injection/aspiration of a joint, bursa, ganglion cyst, tendon sheath, or trigger point	20600, 20604-20606, 20610-20615
	Simple closed reduction of a subluxated joint without sedation (e.g., nursemaid elbow or lateral patellar dislocation)	23650, 24640, 27560
	Upper and Lower extremity casts	29055, 29065, 29075, 29085, 29125, 29305, 29325, 29345, 29355, 29365, 29405, 29425, 29435, 29440, 29445
	Upper and Lower extremity splints	29105, 29125, 29126, 29130, 29131, 29505, 29515

CAFAM Procedure Cluster	CAFAM Procedures Modified to Match CPT Categories	2019 CPT Codes
Pulmonary	Handheld spirometry	94010
Skin	Destruction of skin lesions (including warts) using cryosurgery, RF/electrocautery, chemical ablation, or intralesional injection	17000, 17003, 17004, 17106-17108, 17110, 17111, 17250, 17260-17264, 17266, 17270-17274, 17276, 17280-17284, 17286
	Biopsies (punch, shave), including vulvar biopsy	11102, 11104, 56605
	Drain subungual hematoma	11740
	Excisional biopsy	11106
	Incision and drainage of abscess, including paronychia	10060, 10061, 1180
	Removal of skin tags	11200
	Remove corn/callus	11055-11057
	Simple, intermediate, and complex laceration repair with sutures, tissue glue, or staples	12001, 12002, 12004-12007, 12011, 12013-12018, 12020, 12031, 12032, 12034-12037, 12041, 12042, 12044-12047, 12051-12057, 13100, 13101, 13120, 13121, 13131, 13132, 13151, 13152
	Bartholin's cyst management	56420, 56440
	Endometrial biopsy	58100, 58558
Women's Health	Remove cervical polyp	57500

**Notes:** Local & topical anesthesia are included with some procedures but do not have a dedicated CPT code. Digital rectal exams, fecal disimpaction without anesthesia, and ocular fluoresceine exams are bundled under evaluation and management codes and not recorded as procedures.

# Medicare Part B

- Data publicly available through CMS
- Only Traditional Part B (Fee-for-Service)
  - Does not include Medicare Advantage beneficiaries (~38%)
- Specific procedures per NPI available only if provider submitted > 10 claims per year
  - Uses HCPCS codes (Federal) based on CPT codes (AMA)
- Includes provider types, e.g., physician, PA, NP, etc.
- Does not include specialty or setting for PAs and NPs



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# RESULTS



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# Results - 2019

- 6.1 Million mCAFM procedures filed by PAs
- 2.6 Million mCAM procedures filed by NPs
- Three categories accounted for 98% of all mCAFM claims filed
  - Skin: 82%
  - Musculoskeletal: 13%
  - EENT: 3%



# Skin Procedures

<b>Skin</b>	Destruction of skin lesions (including warts) using cryosurgery, RF/electrocautery, chemical ablation, or intralesional injection
	Biopsies (punch, shave), including vulvar biopsy
	Drain subungual hematoma
	Excisional biopsy
	Incision and drainage of abscess, including paronychia
	Removal of skin tags
	Remove corn/callus
	Simple, intermediate, and complex laceration repair with sutures, tissue glue, or staples



# Musculoskeletal Procedures

<b>Musculo- skeletal</b>	Injection/aspiration of a joint, bursa, ganglion cyst, tendon sheath, or trigger point
	Simple closed reduction of a subluxated joint without sedation (e.g., nursemaid elbow or lateral patellar dislocation)
	Upper and Lower extremity casts
	Upper and Lower extremity splints

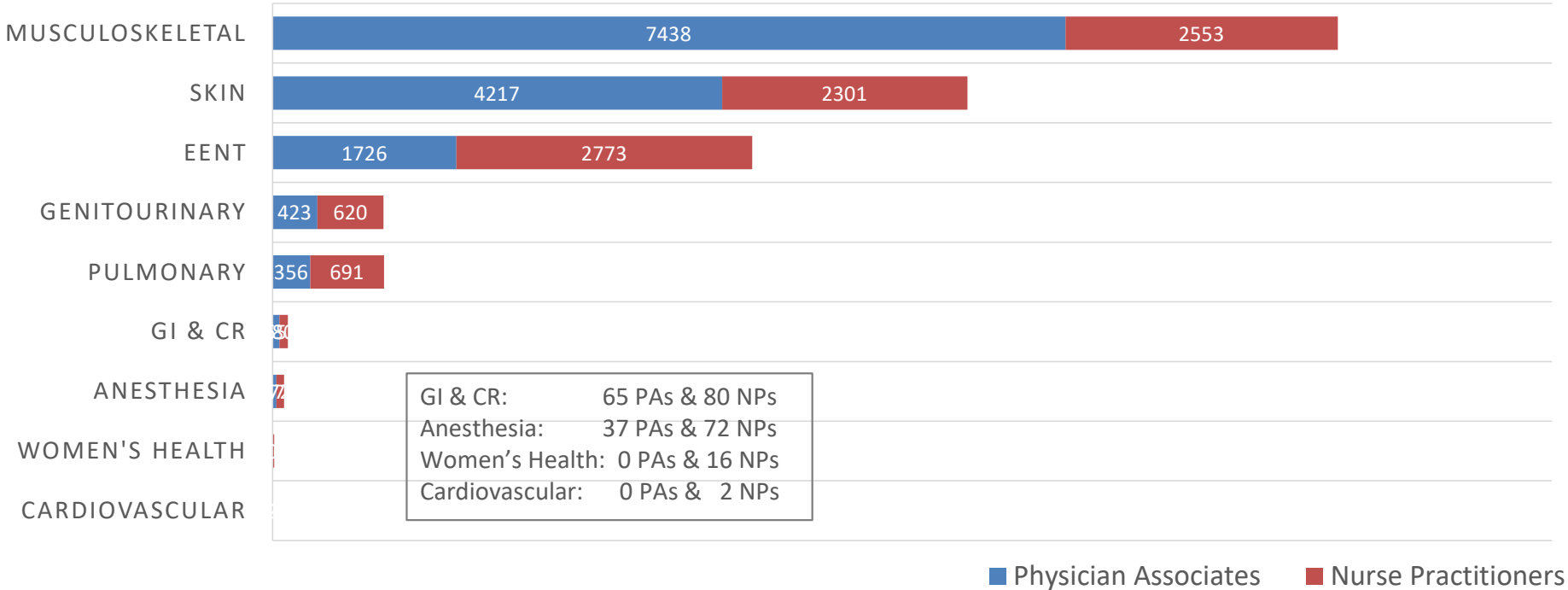


# Categories of mCAFM Procedures by PAs & NPs

Procedure Category	Number of PAs & NPs	No. mCAFM Procedures	Percent CAFM Procedures	Median Procedure per Provider
Skin	6,618	7,245,509	81.87%	69
Musculoskeletal	9,991	1,193,933	13.49%	47
EENT	4,499	263,152	2.97%	19
Pulmonary	1,047	64,661	0.73%	32
Genitourinary	1,043	54,815	0.62%	28
Anesthesia	109	22,633	0.25%	47
Gastrointestinal & Colorectal	145	4,415	0.05%	22
Women's Health	16	279	< 0.01%	13
Cardiovascular	2	50	< 0.01%	25
<b>Total</b>	<b>23,909</b>	<b>8,849,447</b>	<b>100.00%</b>	



# Number of PAs & NPs by Procedure Category, 2019





# Most Frequently Performed Procedure Categories

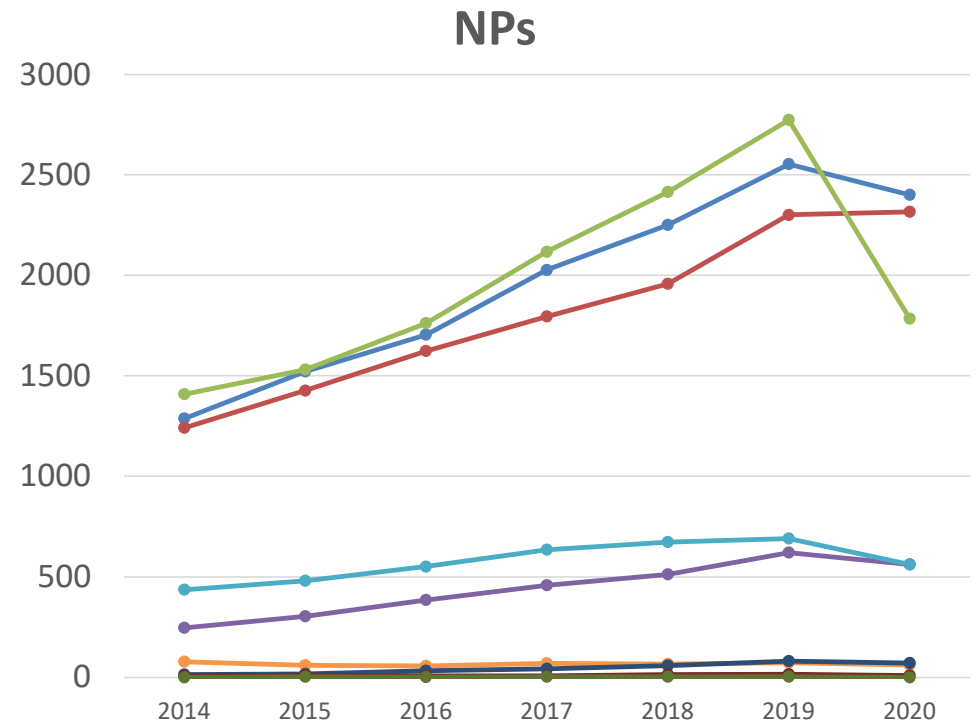
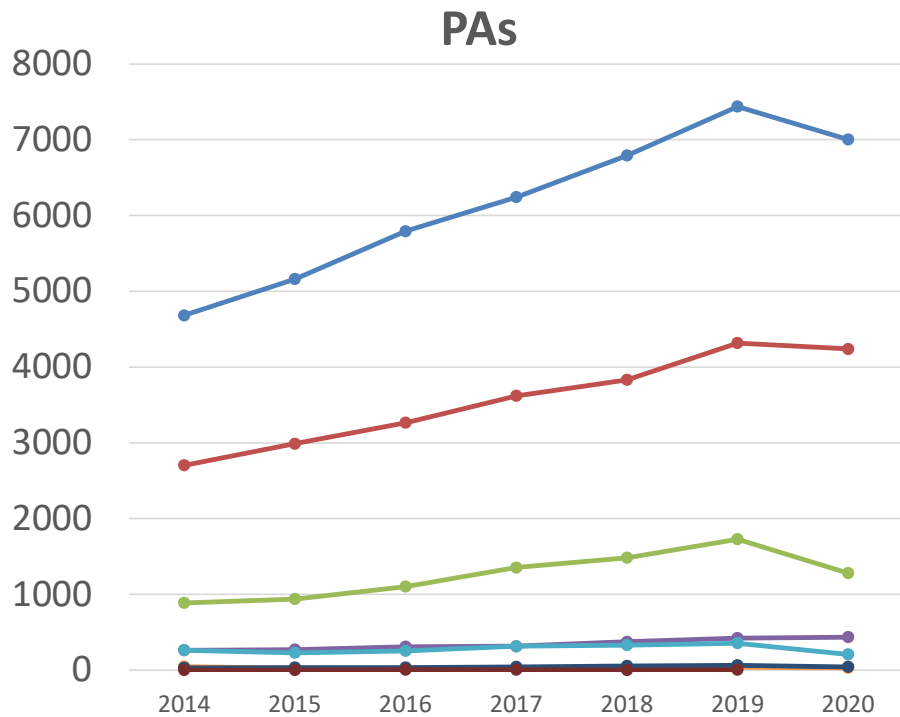
Category	Physician Associates	Nurse Practitioners	Total
Skin	5.1 Million	2.1 Million	7.3 Million
Musculoskeletal	911,360	282,573	1.2 Million
EENT	128,070	135,082	263,152
All Other Categories	43,721	103,132	146,853

## Median Number of All Procedures per Profession

Physician Associates	Nurse Practitioners
88	41



# Number of PAs & NPs Who Filed mCAFMs Claims by Category, 2014 - 2020



Note Different Scales

- Musculoskeletal
- Skin
- EENT
- GenitoUrinary
- Pulmonary
- Anesthesia
- GI & CR
- W Health
- Cardiovascular



# Discussion: 2019

- Approximately 63 million Medicare beneficiaries
- 62.3% Enrolled in Traditional FFS Medicare Part B
- 120,090 PAs and 200,600 NPs in clinical practice
- ~16,000 PAs & NPs filed > 10 mCAFM claims
- 95% of clinical procedures in Skin and Musculoskeletal categories



# Increase in Procedures Not Fully Explained by Growth of PAs and NPs, 2014 through 2019

	PAs	NPs	Combined
Pct Growth of Professions	22%	47%	37%
Pct Growth of PA/NPs who filed mCAFM Claims	65%	95%	76%

- Growth in PAs & NPs filing mCAFM claims nearly double growth in clinically active professionals
  - Increase billing under personal NPI?
  - Increased procedures?
  - Both?



# 2019 Observations

- There were 1.7 times as many clinically active NPs as PAs
- For Skin and Musculoskeletal categories (95%), 2.5 times as many PAs filed claims as NPs
- For all other categories 1.6 times as many NPs filed claims as PAs



# Limitations

- “Incident to” billing may mask role of PAs and NPs in dataset
- Medicare Advantage beneficiaries not included (~38% in 2019)
- Practice/provider specialty for PAs & NPs not available



# Implications

- Guide which technical skills and procedures to teach in PA and NP schools
- PAs and NPs poised to manage growth in U.S. elderly population medical needs



# New Questions to Explore

- Are PAs more procedurally oriented than NPs?
- Are PAs more likely to work in specialties where skin and musculoskeletal procedures are performed?
- Are PAs more likely to bill Medicare under their own NPI?
- Are there geographic differences, i.e., rural v. urban?
- Is this impacted by State scope-of-practice regulations?





# Conclusion

- In 2019, 7% of clinically active PAs & NPs filed 9 million mCAFMs claims
- 95% of these were for skin and musculoskeletal procedures
  - PAs filed 2.5 times as many claims as NPs
- The growth in the number of PAs & NPs submitting claims is nearly double the growth of the PA & NP professions
- The stage is set to further explore the ambulatory procedures in more detail



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# QUESTIONS?



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