PAs IN OPHTHALMOLOGY: A NATIONAL SURVEY

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Disclosures

Dr. Divya Srikumaran is a consultant/advisor for Alcon Laboratories, Inc.

Learning Objectives

By the end of the session, attendees should be able to

1. Explain the role PAs have in ophthalmology

2. Recommend areas of additional training needed for PAs interested in working in ophthalmology

Background

- PAs are underrepresented in ophthalmology
  - 1990: 52 PAs 2018: 96 PAs
- Largest surgical specialty workforce gap in 2025 is projected to be **ophthalmology**
- PAs represent a unique opportunity for physician-led medical care teams because PA scope of practice is largely defined by that of their collaborating physicians.

Purpose

To evaluate the scope of practice and training of current physician assistants (PAs) in ophthalmology and gauge their interest in further training and involvement in ophthalmology.

Methods and Instrument

- A national online survey on PAs in specializing in ophthalmology fielded by AAPA in collaboration with Wilmer Eye Institute, Johns Hopkins University

- 53 questions, covering areas of work in vision and ocular care (but not limited to):
  - Experience (before and after becoming a PA)
  - Tasks and duties performed as a PA in ophthalmology (clinical, procedural, & surgical)
  - Vision and ocular care training
  - Perceived current and desired skills and abilities in 8 areas
    - 1: None – 5: High

Participants

94 PAs identified → Solicited via email with follow-up by mail and phone → 47 PAs responded (50% RR)

55.3% female

40.4% were male, and 4.2% did not identify their gender

20 states

PAs in the AAPA database were located in 27 states within the United States

9.8 years experience

As a PA in ophthalmology. Almost 3 in 5 (59.5%) did not have previous experience in vision and ocular care

90% satisfied

12.5% were moderately satisfied and 77.5% were extremely satisfied with their career

Prior to becoming a PA, 2 in 6 worked as an ophthalmic technician and 1 in 6 as an ophthalmic scribe

Results: Ophthalmic Scope of Practice

Specialties within Ophthalmology

TABLE 1. Clinical Disciplines Practiced by Physician Assistants in Ophthalmology

Clinical Disciplines within Ophthalmology	N	%[a]
Comprehensive Eye Care	25	62.5
Cornea, Cataract, and External Disease	25	62.5
Glaucoma	21	52.5
Pediatric Ophthalmology and Adult Strabismus	5	12.5
Retina	22	55.0
Oculoplastics	22	55.0
Uveitis and Ocular Immunology	5	12.5
Other	9	22.5

Question text: Which clinical disciplines within ophthalmology do you, or did you, practice in? Check all that apply.

[a]Percentages are based on N = 40 respondents. Respondents permitted to select all that apply, so percentages may not sum to 100.

#1
(Tie)

Comprehensive eye care; Cornea, cataract, & external disease

62.5%

#3
(Tie)

Retina; Oculoplastics

55.0%

#5

Glaucoma

52.5%

Results: Ophthalmic Scope of Practice

Clinical Ophthalmic Duties

TABLE 2. Clinical Ophthalmic Duties Among Physician Assistants in Ophthalmology

Clinical Ophthalmic Duties	N	%[a]
Preoperative history and physical	24	60.0
Perform ophthalmic examination (including slit lamp and fundus exam)	33	82.5
Refraction/Retinoscopy	17	42.5
Interpreting ophthalmic tests (eg, optical coherence tomography, biometry, visual field assessment, corneal topography)	33	82.5
Consult coverage of inpatient and/or emergency department	13	32.5
After hours call for the practice	18	45.0
Patient education	33	82.5
Clinical research	12	30.0
Administration/Practice management	12	30.0
Other	12	30.0

Question text: What are, or were, your clinical ophthalmic duties? Check all that apply.

[a]Percentages are based on N = 40 respondents. Respondents permitted to select all that apply, so percentages may not sum to 100.

#1
(Tie)
Ophthalmic exam; Interpreting ophthalmic tests; Patient education

82.5%

#4

Preoperative history and physical

60.0%

#5

After hours call

45.0%

Results: Surgical

Surgical Ophthalmic Duties

TABLE 3. Surgical and Procedural Ophthalmic Duties Among Physician Assistants in Ophthalmology

Surgical and Procedural Ophthalmic Duties	N	%[a]
Not applicable	5	12.5
Consenting patients for surgery and procedures	25	62.5
Assist with ophthalmic operating room surgery (ex: sutures, incisions, and local anesthesia)	26	65.0
Assist with minor clinic-based procedures (ex: intravitreal injections, chalazion drainage, and lasers)	26	65.0
Other	12	30.0

Question text: What are, or were, your surgical and procedural ophthalmic duties? Check all that apply.

[a]Percentages are based on N = 40 respondents. Respondents permitted to select all that apply, so percentages may not sum to 100.

#1 (Tie)

Assist w. Ophthalmic OR surgery; Minor clinic-based procedures

65.0%

#3

Consenting patients for surgery and procedures

62.5%

#4

Other duties not listed

30.0%

Results: Independent Procedures

Independent Procedures Among PAs

TABLE 4. Physician Assistants in Ophthalmology Performing Procedures Independently

Procedures Performed Independently	N	%[a]
Not applicable	14	35.9
Intravitreal injections	9	23.1
Chalazion drainage or other minor lid procedures	15	38.5
YAG laser capsulotomy	2	5.1
Laser Iridotomy	0	0
Laser Trabeculopasty	0	0
Panretinal Photocoagulation	0	0
Other	10	25.6

Question text: Do you, or did you, perform any of the following procedures independently? Check all that apply.

[a]Percentages are based on N = 39 respondents. Respondents permitted to select all that apply, so percentages may not sum to 100.

#1

Chalazion drainage or other minor lid procedures

38.5%

#2

Other procedures not listed

25.6%

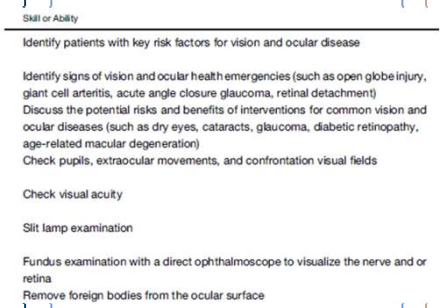
#3

Intravitreal injections

23.1%

Less than half of PAs surveyed independently perform procedures

Gaps: Perceived Current Versus Desired Skills

p = .002	p = .002	p = .001	p < .001	p < .001
Identify patients with key risk factors for vision and ocular disease	Identify signs of vision/ocular health emergencies (e.g., open globe injury, giant cell arteritis, acute angle closure glaucoma, retinal detachment)		Fundus examination with a direct ophthalmoscope to visualize the nerve and/or retina	Remove foreign bodies from the ocular surface
r = 0.33	r = 0.33	r = 0.36	r = 0.43	r = 0.44

Skill or Ability

Identify patients with key risk factors for vision and ocular disease

Identify signs of vision and ocular health emergencies (such as open globe injury, giant cell arteritis, acute angle closure glaucoma, retinal detachment)
Discuss the potential risks and benefits of interventions for common vision and ocular diseases (such as dry eyes, cataracts, glaucoma, diabetic retinopathy, age-related macular degeneration)
Check pupils, extraocular movements, and confrontation visual fields

Check visual acuity

Slit lamp examination

Fundus examination with a direct ophthalmoscope to visualize the nerve and or retina
Remove foreign bodies from the ocular surface

Statistics are based on Wilcoxon Signed Ranks. α = 0.00625. *r* is a measure of effect size.

Perceived Current Versus Desired Skills

TABLE 5. Current and Desired Skills and Abilities in Vision and Ocular Care Among Physician Assistants in Ophthalmology

Skill or Ability	Rating	Self-Reported Skills and Abilities[a] (% of N = 43)					Test of Significance		Effect Size
		1: None	2	3	4	5: High	Z Value[b]	*P* Value[c]	*r*[d]
Identify patients with key risk factors for vision and ocular disease	Current	0.0	4.7	4.7	32.6	58.1	3.07	.002	0.33
	Desired	0.0	2.3	0.0	4.7	93.0			
Identify signs of vision and ocular health emergencies (such as open globe injury, giant cell arteritis, acute angle closure glaucoma, retinal detachment)	Current	0.0	2.3	2.3	37.2	58.1	3.07	.002	0.33
	Desired	0.0	2.3	0.0	4.7	93.0			
Discuss the potential risks and benefits of interventions for common vision and ocular diseases (such as dry eyes, cataracts, glaucoma, diabetic retinopathy, age-related macular degeneration)	Current	0.0	4.7	7.0	23.3	65.1	2.63	.009	0.28
	Desired	2.3	0.0	0.0	7.0	90.7			
Check pupils, extraocular movements, and confrontation visual fields	Current	0.0	0.0	9.3	23.3	67.4	2.56	.01	0.28
	Desired	2.3	0.0	2.3	2.3	93.0			
Check visual acuity	Current	0.0	0.0	7.0	9.3	83.7	1.20	.23	0.13
	Desired	2.3	0.0	0.0	2.3	95.3			
Slit lamp examination	Current	2.3	7.0	9.3	32.6	48.8	3.35	.001	0.36
	Desired	0.0	2.3	7.0	2.3	88.4			
Fundus examination with a direct ophthalmoscope to visualize the nerve and or retina	Current	4.7	9.3	25.6	23.3	37.2	3.99	<.001	0.43
	Desired	0.0	4.7	4.7	7.0	83.7			
Remove foreign bodies from the ocular surface	Current	4.7	9.3	23.3	23.3	39.5	4.09	<.001	0.44
	Desired	0.0	0.0	9.3	11.6	79.1			

Question text: Please rate your current and desired skills and abilities for the following procedures, tasks, and competencies:

[a]Scale 1 to 5, 1 indicating no skills and abilities and 5 indicating high skills and abilities.

[b]Z statistics based on nonparametric Wilcoxon Rank Sum paired samples test are based on N = 43 respondents.

[c]Owing to Bonferroni correction for multiple comparisons, when $P > .00625$, the difference between current and desired skill or ability is nonsignificant.

[d]The effect size of the difference was evaluated using *r*, where $r = 0.1$ a small effect, $r = 0.3$ a medium effect, and $r = 0.5$ a large effect.

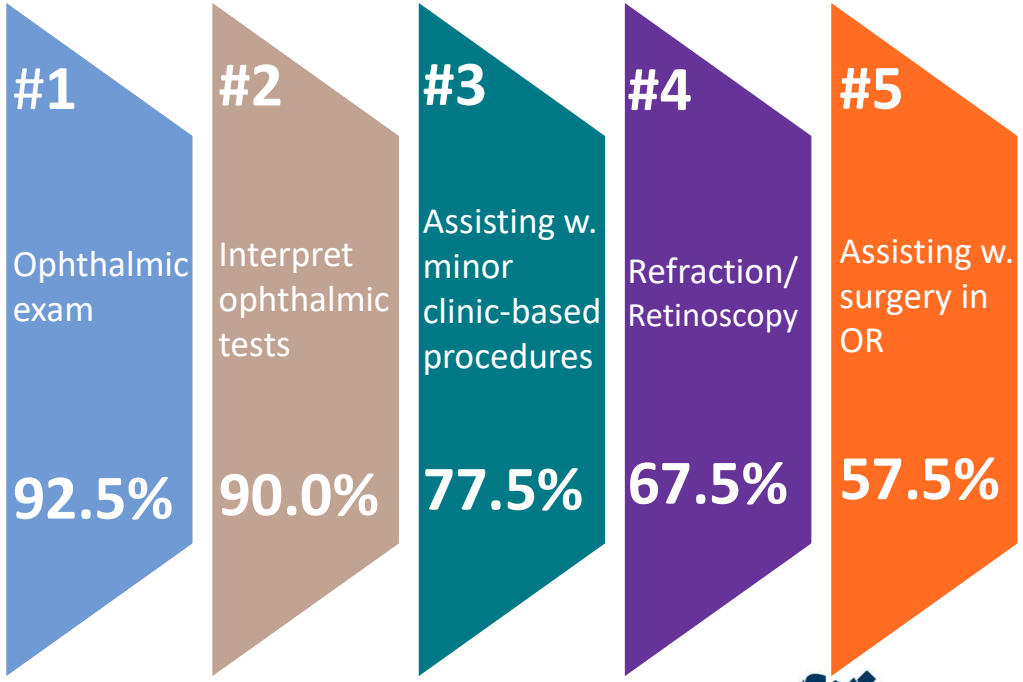
Helpful skills for a potential PA Ophthalmology Postgraduate Training Program

TABLE 6. Skills Most Helpful in a Potential Physician Assistant (PA) Ophthalmology Postgraduate Training Program as Rated by PAs in Ophthalmology

Skills in a Potential PA Ophthalmology Postgraduate Training Program	N	%[a]
Not applicable	1	2.5
Experience with ophthalmic exam (ex: slit lamp and fundus exam)	37	92.5
Refraction/Retinoscopy	27	67.5
Interpretation of ophthalmic tests (ex: Optical coherence tomography, Biometry, Visual Field Assessment, Corneal topography)	36	90.0
On Call Triage of Patients	17	42.5
Assisting with surgery in an operating room	23	57.5
Assisting with minor clinic-based procedures (ex: intravitreal injections, chalazion drainage, and lasers)	31	77.5

Question text: If you had the opportunity to train in a PA residency in ophthalmology, what skills would have been most helpful to learn? Check all that apply.

[a]Percentages are based on N = 40 respondents. Respondents permitted to select all that apply, so percentages may not sum to 100.



AAPA

Discussion

- The PAs participating in this survey provide a range of clinical and procedural ophthalmic care
  - Areas of overlap exist between ophthalmology and other surgical specialties
- PAs in ophthalmology are satisfied with their specialty
- The development of formal PA postgraduate training programs in ophthalmology may expand the pool of PAs qualified to practice ophthalmology.
- PAs may give the ophthalmologic workforce the scale and flexibility to better accommodate workforce gaps generated by novel treatment advancements.

Limitations & Challenges

Survey of half of all PAs within ophthalmology

Insights into the work of PAs within ophthalmology

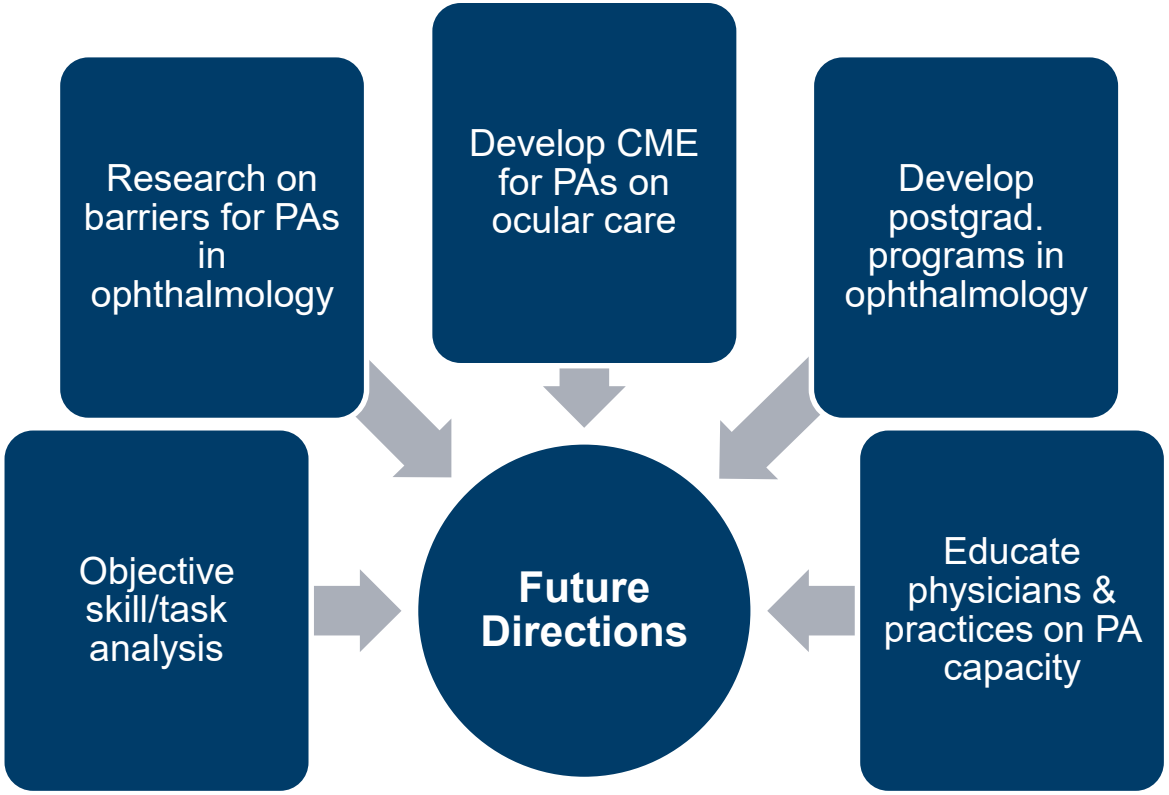
Areas identified for training opportunities

Small sample size
Did not survey physicians

Work experiences is self-reported

Knowledge gaps are perceived

Future Directions



Take Home Points

- PAs as a group should not be overlooked as potential vison care providers
- There is still a need for the development of (1) curriculum in PA school, (2) additional CME, and (3) formal PA postgraduate training programs in ophthalmology.
- PAs may give the ophthalmologic workforce the scale and flexibility to better accommodate workforce gaps generated by novel treatment advancements.

References

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Questions? Thank you!

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