

WHAT ROLE DOES AN OPTOMETRIST PLAY IN THE MIND OF HEALTH
PROFESSIONALS?

by

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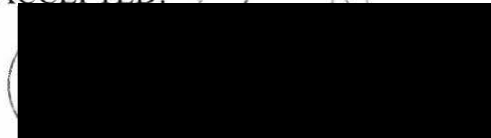
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What Role Does An Optometrist Play In The Mind Of Health Professionals?

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ABSTRACT

Background: This research paper attempts to answer the question: To whom do medical health professionals, working in various clinical settings, refer eye related diseases, injuries, and other visual problems? **Methods:** A survey will be given to a number of health professionals. Health professionals that will be surveyed include: primary care physicians, nurse practitioners, and physician assistants. An eight-question survey was conducted online and shared via social media and word of mouth. The questions and answers were prewritten and multiple-choice responses were provided, except for one last free response question. The questions contained an eye-related diagnosis or patient complaint, and then asked the health provider to select the medical professional that they would refer their patient to. The possible referral source answers include: ophthalmologist, primary care physician, pediatrician, optician, or optometrist. At the end of the survey, the surveyor received an explanation of optometry and the full scope at which optometry can practice in the United States. **Results:** The majority of health providers selected ophthalmologists as their first choice referral for eye related issues. The only scenario in which optometrists received equal referrals with ophthalmologists was when a healthy patient complained of blurry vision. **Conclusions:** Our clinical goal for conducting this study is to make the medical community aware of the visual and medical healthcare that optometry is capable of providing to patients. If more medical

professionals understand what optometry offers, optometry may begin receiving more referrals from other medical health professionals.

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CHAPTER 1

INTRODUCTION OF OPTOMETRY AND THEIR ROLE IN SOCIETY

Over the past few decades, the profession of optometry has increased its scope of practice dramatically from practicing exclusively as refractionists, to the diagnosis and management of many ocular diseases. In most states, optometrists can prescribe oral medications and some states have passed legislation to allow optometrists to perform select laser procedures and injections on patients. However, many health professionals still do not feel comfortable referring most of their patients to optometrists for anything other than a routine eye examination. Optometrists complete three to four years of undergraduate studies, and four years of graduate level coursework and clinical experience including treatment and management of ocular disease, pharmacology, treatment and management of binocular vision abnormalities, as well as basic human anatomy and physiology. Although the scope of practice and educational requirements for optometrists is continually increasing, the public and medical knowledge of the full extent of an optometrist's license is still a mystery to most.

CHAPTER 2

MATERIALS AND METHODS

Healthcare professionals across the United States were surveyed via an online survey that was shared through word of mouth and social media platforms. Medical doctors, physician assistants, and nurse practitioners were targeted to complete this survey. A seven question multiple choice and one short answer survey was posted to medical Facebook groups by means of a Google Forms Survey. The first three questions pertained to the surveyor asking age, gender, and medical degree. The next four questions asked whom the surveyor would refer a patient to based on a specific eye complaint or condition diagnosed. For instance, question four asks, “Who do you refer diabetic patients to for their annual eye exam?” The possible referral options include: ophthalmologist, optometrist, optician, or treat condition yourself. The last question was short answer and required the surveyor to type in a text response before selecting “Submit” to complete the survey. See Figure 1 for a sample of the survey given. Once the survey is submitted, a message appears to the surveyor. See Figure 2 for submission message.

Figure 1: Sample of Survey Administered

1. What is your age? _____
2. Gender? (Male/Female)
3. Medical degree? (M.D., D.O, P.A., N.P.)
4. Who do you refer your diabetic patients to for their annual eye exam?
 - A. Ophthalmologist
 - B. Optometrist
 - C. Primary Care Physician
5. If a 30-year-old patient came in with a unilateral red eye, who would you refer to?
 - A. Treat it yourself
 - B. Optometrist
 - C. Primary Care Physician
 - D. Ophthalmologist
6. If a 4-year-old patient came into clinic and you diagnosed them with an eye turn, whom would you refer to for treatment?
 - A. Pediatric Optometrist
 - B. Pediatric Ophthalmologist
 - C. Pediatrician
7. If a healthy 40-year-old patient complained of blurry vision, who would you refer them to for an eye exam?
 - A. Optician
 - B. Optometrist
 - C. Ophthalmologist
8. Based on which healthcare professional you chose the most above, why do you feel the most comfortable referring your patients to this individual?

Figure 2: Post-Survey Submission Message

Thank you for your participation! Optometrists are licensed primary care doctors for the eye. They manage and treat ocular conditions such as glaucoma, diabetic retinopathy, and macular degeneration. They also specialize in contact lenses, binocular vision, and vision therapy services. Contact your local optometrist for your next eye exam!

CHAPTER 3

RESULTS

Over the course of two months, 75 health professionals completed the survey. The majority of respondents were 57 medical doctors (M.D.), some of who were residents, 14 physician assistants (P.A.), two doctors of osteopathic medicine (D.O.), and two nurse practitioners (N.P.). The mean age of the surveyor was 27 years old. From the 75 responders, 46 were female and 29 were males. Since a small sample of D.O.'s were surveyed, they were grouped together with M.D.'s. Moreover, N.P.'s were grouped with P.A.'s for analytical purposes. Percentages were analyzed to show a better representation of data between the two groups despite their discrepancy in sample size.

The first referral question asked to participants was “Who do you refer diabetic patients to for their annual eye exam?” and the participants were given the choices of OMD, PCP, and OD to select from for their referral. Table 1 and Figure 3 show the results from this question. Two thirds of M.D.'s and D.O.'s and over half of N.P.'s and P.A.'s would refer their diabetic patients to ophthalmologists. Under ten percent of participants would refer their patients to their primary care doctors, even though they do not perform dilated eye exams in office, instead many offices have started using fundus photography to screen for diabetic retinopathy in office.

Who do you refer diabetic patients to for their annual eye exam?

	OMD	PCP	OD
DO/MD	77.6%	8.6%	13.8%
NP/PA	56.3%	6.3%	37.5%

Table 1. Answers by percentage to the question, “Who do you refer diabetic patients to for their annual eye exam?”.

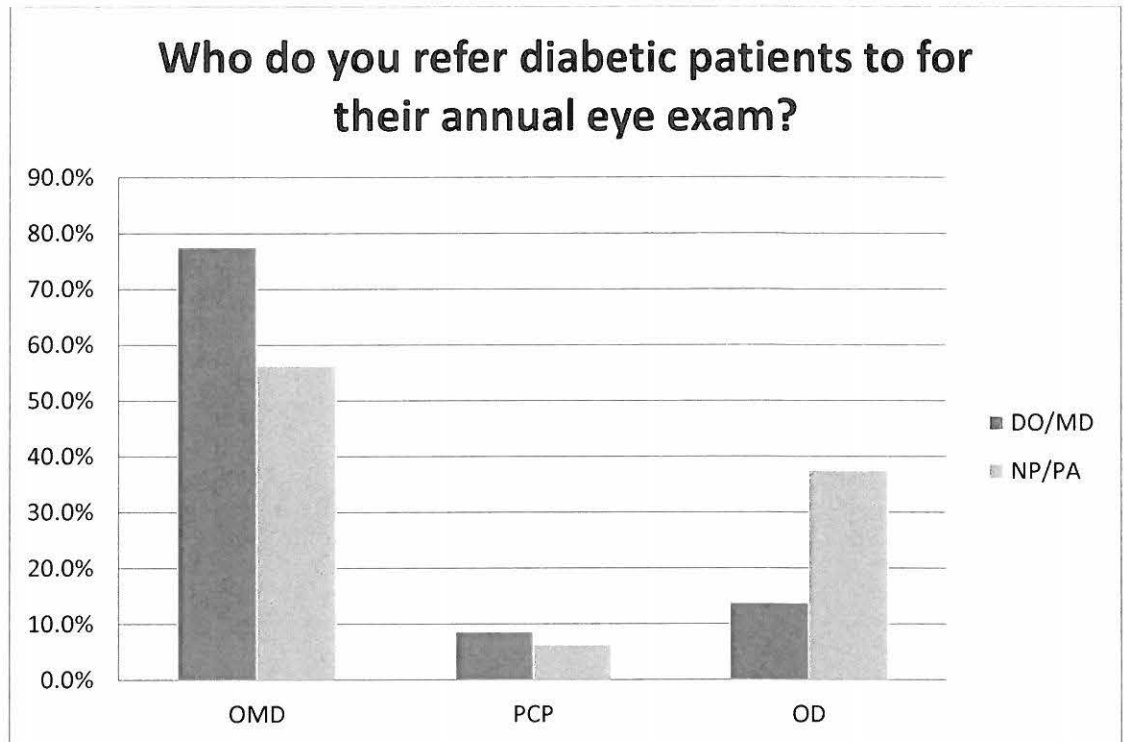


Figure 3. Graph showing over half of participants favoring OMD’s as the choice provider for their diabetic patients.

The next referral question was “If a 30-year-old patient came in with a unilateral red eye, who would you refer to?” to determine who providers choose to refer emergency red eye patients to. The choices provided for participants were OMD’s, PCP’s, OD’s, and the choice to treat the patient themselves. As shown in Table 2 and Figure 4, none of the 75 participants chose to refer their red eye patients to optometrists. Most providers chose to treat the patient themselves in office, otherwise they were split with their referrals to

ophthalmologist and primary care doctors if they were uncomfortable managing the patient themselves. A greater percentage of NP's and PA's chose to treat their patients themselves, most likely due to the fact that they are likely primary care providers themselves and many MD's and DO's may be specialized in another field where they routinely do not treat red eyes.

If a 30-year-old patient came in with a unilateral red eye, who would you refer to?

	OMD	PCP	OD	Treat Yourself
DO/MD	25.9%	25.9%	0.0%	48.3%
NP/PA	18.8%	18.8%	0.0%	62.5%

Table 2. Answers by percentage to the question, “If a 30-year-old patient came in with a unilateral red eye, who would you refer to?”.

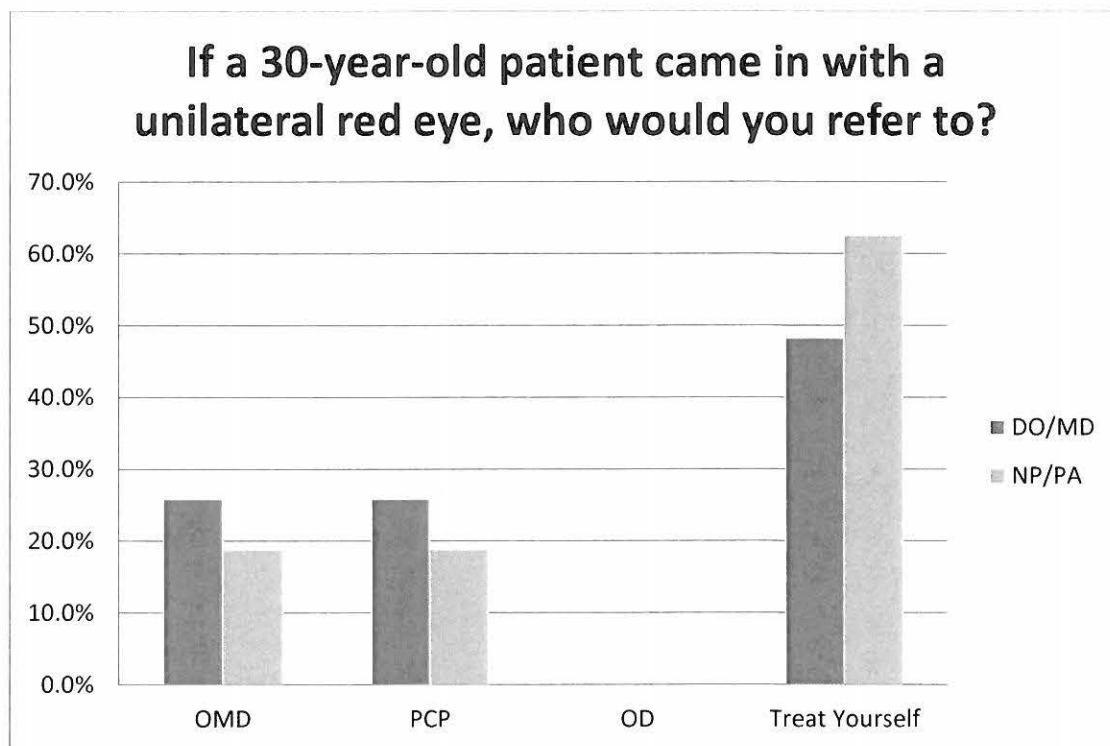


Figure 4. Graph showing over half of participants would choose to treat their red eye patients rather than refer them out to specialized eye professionals.

The third referral question was “If a 4-year-old patient came into clinic and you diagnosed them with strabismus, who would you refer to for treatment?” and the

participants were given the choices of pediatric ophthalmologists, pediatric optometrists, and pediatricians. According to the data shown in Table 3 and Figure 5, a large majority again chose to refer their young strabismus patients to ophthalmologists over optometrists with a small percentage choosing to refer to the patient’s pediatrician.

If a 4-year-old patient came into clinic and you diagnosed them with strabismus, who would you refer to for treatment?

	Pediatric OMD	Pediatrician	Pediatric OD
DO/MD	77.6%	3.4%	19.0%
NP/PA	68.8%	6.3%	25.0%

Table 3. Answers by percentage to the question, “If a 4-year-old patient came into clinic and you diagnosed them with strabismus, who would you refer to for treatment?”.

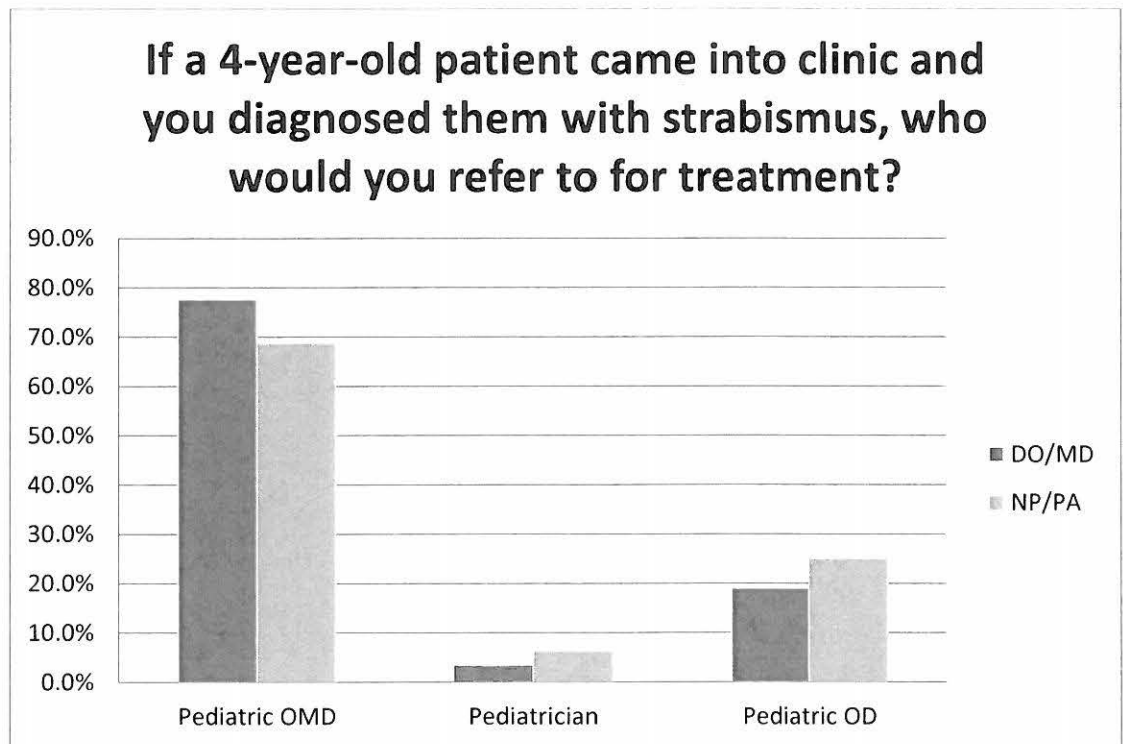


Figure 5. Graph showing a majority of providers choose to refer their strabismic pediatric patients to OMD’s.

The final case based referral question was “If a healthy 40-year-old patient complained of blurry vision, who would you refer them to for an eye exam?”. The

participants were given referral options of ophthalmologists, optometrists, and opticians to provide care for their healthy patients. The data in Table 4 and Figure 6 show almost an even split between ophthalmologists and optometrists to treat this healthy patient, even though optometrists are typically considered the primary care providers of the eye, especially in cases that involve glasses and contact lenses.

If a healthy 40-year-old patient complained of blurry vision, who would you refer them to for an eye exam?

	OMD	OD	Optician
DO/MD	50.0%	46.6%	3.4%
NP/PA	37.5%	62.5%	0.0%

Table 4. Answers by percentage to the question, “If a healthy 40-year-old patient complained of blurry vision, who would you refer them to for an eye exam?”.

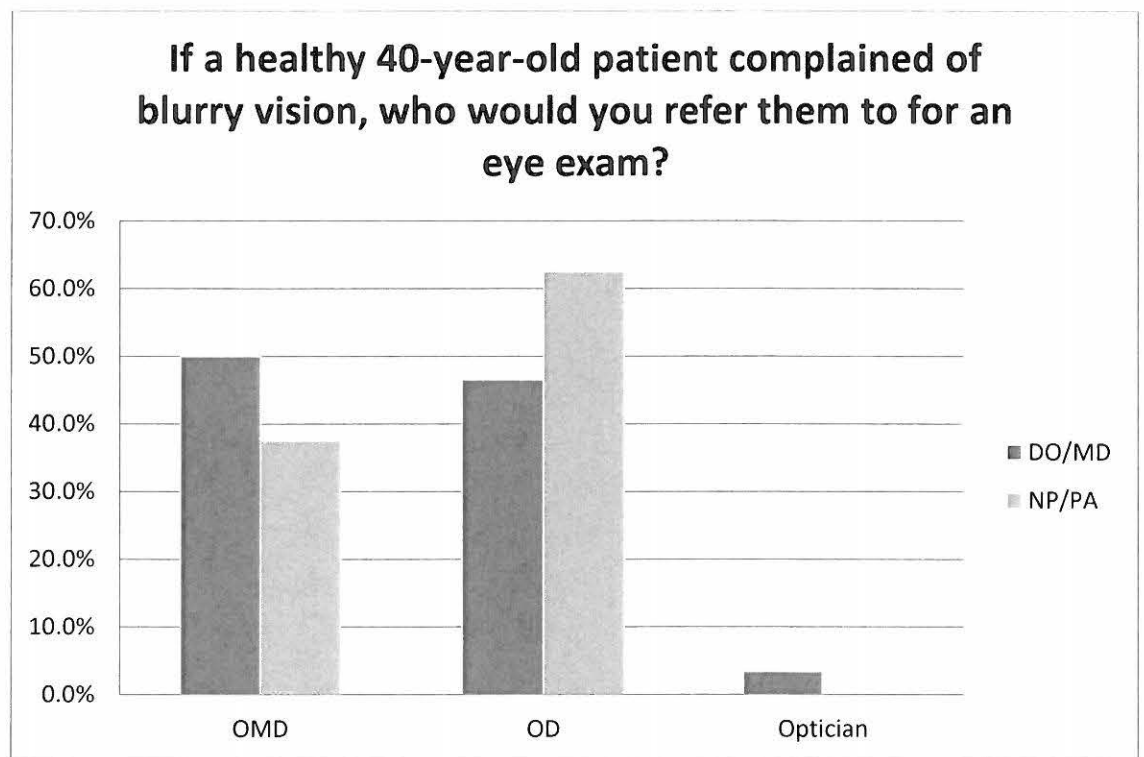


Figure 6. Graph showing a fairly even split between OMD’s and OD’s for referral of a healthy patient with blurry vision.

The final question of the survey asked, “Based on which healthcare professional you chose the most above, why do you feel the most comfortable referring your patients

to this individual?” Since this question required a short answer response, we organized all the answers into the following categories: familiarity, experience, the scope of practice, medical training/expertise, medical vs. visual eye condition, or same degree as surveyor (i.e. M.D. referral to another M.D.). To determine which category corresponded with each answer, we defined each category. Familiarity required the word “familiar” or “familiarity” in the response, the responder defined the differences between each referral source and reasoning for the referral, or they answered the same referral source for each question. Experience required the word “experience” in the response or that the responder had clinical experience in referrals to that provider. The scope of practice required the words “scope of practice” or the responder expressed a certain awareness or unawareness of the scope of practice for a certain referral source. Medical training/expertise required the word “training” or “expertise” in reference to the referral source’s level of medical training, education, or area of specialization. Medical vs. visual eye condition required that the responder state why they selected a specific referral source; the requirements of this selection were based on their assessment that the case condition was purely medical or purely visual. Same degree as surveyor was specific to the M.D.’s; the surveyor contained a medical doctor degree (M.D.) and only refers to other medical doctors (M.D.’s).

The results for question eight include: 18 responded familiarity with the referral source, 18 responded medical training/expertise, 13 responded that it depended on whether the case required a medical or visual condition, 10 responded experience, 10 responded that they were unaware of the scope of practice for an optometrist ophthalmologist or both, four responded that they would refer to an M.D. because they

have the same degree, one responded that trust was the sole reason for their referral selection, and one responded that they had selected a different referral source for each question.

CHAPTER 4

DISCUSSION

This health care provider survey was given to multiple health care providers in order to determine who in the medical field receives the majority of eye-related case referrals.

The survey showed that many primary care physicians, physician assistants, and nurse practitioners most commonly refer these specific ocular case conditions to ophthalmologists. Many feel the most comfortable referring to ophthalmologists due to familiarity in their health care field and understanding the training that is required for an ophthalmologist.

However, many surveyors based their referral on viewing the ocular condition as medical or visual. If they believed it was a ‘medical’ condition they associated this with an ophthalmology referral, where as if the condition was strictly related to ‘vision’ they associated this with an optometry referral. For instance, when asked who they would refer a diabetic patient to for their annual eye exam or who would they refer a 4-year-old to with a diagnosis of strabismus, many who chose ophthalmologist as the referral source associated these conditions as medical, and explained in their short answer that they thought ophthalmologists treat medical conditions while optometrists treat visual conditions (i.e. glasses or contacts for blurred vision). This trend continues in question seven, when asked, “If a healthy 40-year-old patient complained of blurry vision, who would you refer to?” While 50% of surveyors chose optometrist as the referral source,

this was the only question that optometrist received the majority vote, with ophthalmologist as a close runner up at 46%. This question specifically states “blurry vision” as the main complaint with no other health ailments. Surveyors again correlated blurry vision with a strictly ‘vision’ related problem, and associated optometrist as their first referral source.

In 1901, Minnesota was the first state to recognize optometry as its own profession. In 1910, Columbia became the first university to include optometric classes in the curriculum.¹ Optometry began to expand during the 20th century, but during its infancy, optometry was considered a solely refractive industry. Optometrists are licensed to prescribe spectacle and contact lens prescriptions for conditions like myopia, hyperopia, astigmatism, and presbyopia. However, today in the 21st century, optometrists can also manage and treat ocular eye diseases.

It was not until 1976, when the first Therapeutic Pharmaceutical Agents (TPA) Law was passed in West Virginia, that optometrists legalized the use of therapeutic drugs. Shortly after in 1981, Medicare recognized optometrists as physicians, allowing reimbursements for medical care.² Although it has been over 40 years since optometry was given the ability to treat and manage medical conditions such as uveitis, glaucoma, diabetic retinopathy, and age-related macular degeneration, the profession still struggles to be recognized as the primary care physician for the eyes.

Optometry and ophthalmology are two areas of eye care that can benefit from a synergistic relationship. Optometrists are the primary care provider for the eyes. In comparison, primary care physicians are the primary care providers for a patient’s

general health. They provide annual physical exams, sick exams, and check-ups for all ages. However, if a patient requires further treatment outside of their scope of practice, they refer to a specialist for further evaluation or surgical intervention. Optometrists provide eyeglasses, contact lenses, binocular vision care, vision therapy, and ocular disease management and treatment such as macular degeneration or diabetes. However, if any of these conditions need more advanced treatment, ophthalmology is always included in the patient's care. For instance, if a patient needs strabismus surgery for their eye turn, cataract extraction for their nuclear sclerosis, laser surgery for their high myopia or elevated intraocular pressure, optometrists refer to ophthalmologists for further management and treatment. Within the next ten years, the demand for eye care is projected to increase by 27% due to the aging population and increased number of individuals with chronic diseases such as diabetes requiring annual eye examinations.³ If optometrists can form a stronger referral network with other medical professionals, more patients can be treated for their ocular conditions. Optometrists can focus on primary eye care, and ophthalmologists can focus on advanced eye diseases and surgery as demand increases.

Some limitations of this data include a small sample size and young median age of participants. Since this survey was administered electronically, it is likely that many younger health professionals had access to the survey compared to older practitioners who may have responded better to a physical or paper copy of the survey. Since our participants are much younger than the average health care provider in this country, it is possible that our results would vary drastically. Younger practitioners have less years of

experience, so they may not have learned the difference between the various eye health professionals at this stage in their careers.

To continue this research, it would be interesting to analyze how the primary care doctors would treat the unilateral red eye case example themselves, and if and when they would decide to refer to an eye care specialist if symptoms did not resolve. Also, researching different states and regions of the country to compare health referrals may yield different results as the scope of practice of optometrists varies slightly from state to state.

The American Optometric Association (AOA) provides continued guidance and advancement for the field of optometry. The statewide associations and regional associations also provide tools and resources for optometrists to practice full scope. However, the referral link between optometry and other health care providers is weak. Our goal with this survey is to provide optometric knowledge and intrigue thought provoking conversation among other health care providers regarding eye care. Optometry must create stronger relationships with the rest of health care in order to receive referrals in the future.

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