

Survey of New Graduates Readiness to Provide InfantSEE Exams

Cassidy Kesler*, Laura Langford*, Alissa Proctor[†]

Word count 3,217
Three figures, one table
Submitted on 08/21/16

ABSTRACT

Purpose. InfantSEE was developed by the American Optometric Association to provide a one-time, no charge, comprehensive eye exam to infants aged six to twelve months. Said exam checks for debilitating vision disorders such as amblyopia and strabismus. When left untreated, these disorders can lead to developmental delays, emotional affects, and poor school performance. Preparedness to evaluate infants in the InfantSEE program is explored in an effort to help the AOA improve and expand the program.

Methods. Survey Monkey SELECT was used to create a survey to distribute to optometry schools, U.S. optometric state associations, and other recent graduate optometrists eligible to participate in InfantSEE. Twenty-three total questions were asked to participants. The survey addressed InfantSEE providers and non-providers.

Results. 216 recent graduate optometrists participated in the survey. Only 15.71% of respondents surveyed stated lack of preparedness as their reason for not being an InfantSEE provider. Other prevalent reasons for non-participation include limited access to the appropriate equipment and lack of compensation for services rendered. Recent graduates voiced an interest in infant-based continuing education courses, online training videos from the AOA, and simplistic PDF documents with step-by-step infant examination instructions.

Conclusion. The majority of recent graduate optometrists feel adequately prepared to provide infant vision examinations. Most surveyed state alternative reasons for non-participation in the AOA's InfantSEE program. They request additional support from the AOA in the form of infant-focused continuing education courses, brief online training videos, and PDF documents outlining procedures or infant exam flow.

Key Words: InfantSEE, infant vision, vision development, amblyopia, strabismus

*BS

[†]OD, FAAO

Northeastern State University Oklahoma College of Optometry

InfantSEE was developed by the American Optometric Association (AOA) in 2005 with the express purpose of evaluating children aged 6-12 months with a comprehensive eye exam.¹ This program provides a one-time, no charge, visual assessment to any infant. The well-child exam provided by pediatricians does not adequately evaluate refractive error and binocularity, so is not a substitute for a comprehensive eye exam given by an InfantSEE participating optometrist.² Screening for disorders such as amblyopia is not done consistently by primary care physicians due to little formal training.³ Debilitating visual system disorders are screened for and detected early in the InfantSEE exam so as to prevent negative sequelae on the infant's life and development.⁴

Three main vision disorders are documented at length that can affect quality of life if not addressed at an early age. Strabismus is one such disorder. It is defined as the misalignment of the eyes which negatively affects binocularity and stereopsis.^{5,6,7,8} One out of twenty-five children in America develops strabismus. Another common vision disorder, amblyopia, affects one out of thirty children and is virtually undetectable without proper examination.^{2,9} Amblyopia is a perceived loss of vision in one or both eyes due to factors such as the aforementioned strabismus, vision deprivation, or uncorrected refractive error.^{10,11} All of these can affect normal development of the visual system, which is why early detection is of paramount importance.^{12,13} A third common disorder is uncorrected refractive error. Of the refractive errors in young children, hyperopia is the most prevalent.^{14,15} Significant hyperopia, which is a spherical equivalent of greater than or equal to +2.00D, affects between 15.8 and 28.8% of children across all major ethnic groups.^{16,17} The aforementioned are summarized in TABLE 1 below.¹⁸

Prevalence of Vision Disorders in Children		
Disorder	Age	
	6 mo – 5.11 yrs	6-18 yrs
Hyperopia	33%	23%
Astigmatism	22.50%	22.50%
Myopia	9.40%	20.20%
Nonstrabismic binocular disorders	5%	16.30%
Strabismus	21.10%	10%
Amblyopia	7.90%	7.80%
Accommodative disorders	1.00%	6.00%
Peripheral retinal abnormalities (requiring referral or follow-up care)	0.50%	2%

TABLE 1.
Prevalence of Vision Disorders in A Clinical Pediatric Population

If children with the vision disorders described above are not identified at an early age, developmental delays may occur.^{2,19} Without InfantSEE many of these disorders would not be detected early enough for appropriate treatment and management.^{20,21,22} When comparing typically-developing children to their hyperopic peers, developmental differences up to age seven are present. Children with uncorrected and unidentified hyperopia during infancy not only have visual delays, but cognitive and visuomotor developmental delays as well.^{14,23} When vision disorders persist into adulthood, they can affect many aspects of life. Overall health, job choices, and social factors are greatly affected by visual dysfunctions overlooked during infancy and childhood.²⁴ These require adaptation to overcome or cope. Patients report feelings of decreased self-worth and also avoid reading due to functional problems.²⁵ Parent-child bonding can be negatively affected by the child's inability to see. Parents often feel the child is disinterested in them and their budding relationship.²⁰

How do optometrists go about identifying and managing infants with visual disturbances? Often nonverbal testing is utilized to evaluate a child's visual system.^{26,22} Nonverbal testing includes Hirschberg, cover test, and evaluation of the red fundus reflex through the Bruckner test.^{27,22} Finger puppets or face-like targets are visually stimulating to infants and provide appropriate targets. Insight is gained into the child's visual acuity by preferential looking behavior.^{4,28} Preferential looking is assessed by observing a child's eye movement towards a visually stimulating target when presented. An example of a preferential looking target is a Lea Face Stimulus paddle, pictured below in FIGURE 1.⁴



FIGURE 2.
Lea Face Stimulus paddles

A survey was created to distribute to recent graduate optometrists across the nation. The purpose of this survey is to assess the readiness of optometrists who have recently graduated to provide InfantSEE exams. The goal was to gain insight into the experience of young optometrists by covering some of the following topics: What are the ways in which the AOA can help prepare

optometrists to examine infants and children? What experience do optometrists have in infant vision exams? Do recent graduates feel prepared to see infants? Using this information, the AOA can aid in better serving both the provider and the patient by enhancing InfantSEE and developing the program.

METHODS

After receiving approval from the Northeastern State University Institutional Review Board, we surveyed optometrists who have provided informed consent and have graduated within the last five years. To format the survey, we utilized Survey Monkey. The survey was created and distributed to all accredited optometry schools, all fifty United States optometric state associations, and shared via social media groups such as “ODs on Facebook”. Participating optometrists submitted an electronic acceptance of informed consent by clicking “next” on the first page of the survey. The phrase “completing the survey and clicking submit indicates that I have read the information above and that I agree to participate in this study” was utilized.

We posed twenty-three questions to both InfantSEE providers and nonproviders. Questions pertained to readiness to provide infant vision services. The goal was to determine what the preparedness is for optometrists to see infants by collecting an even national distribution, have representation from most schools and colleges of optometry, and over 200 responses.

Collecting the data

Survey Monkey is a web-based survey service that was utilized to distribute questions and collect responses. A secure account was created through Survey Monkey so that only the researchers and research advisor had access. The SELECT plan was chosen due to unlimited question and answer options. Both forced choice and free-response modalities were employed. Skip logic based on question responses was also utilized. The website provided a unique web link through which social media participants could access the survey questions. E-mail invitations were sent to a limited test group, and subsequently, the colleges of optometry and optometric state associations.

Depending on the university, the primary correspondent for each of the schools was the Alumni Relations Coordinator or the Continuing Education Coordinator. Online state association contact forms or a personal email to the Association Director was utilized to contact each state association. The primary correspondent’s email address for each school or organization was obtained from the school or organization’s website. Recipients had the option to allow their members to either participate in the survey or opt out of future emails pertaining to the survey. If the correspondent chose to participate, the email containing the survey link was further distributed to their members via their member email lists or monthly newsletters. A custom

invitation was drafted in the email to participants that conveyed the importance of the survey and requested a short amount of their time for completion.

Each doctor who chose to participate used the link which directed them to the survey page. The survey was anonymous. In order to participate, the doctors had to meet the following inclusion criteria: graduated from an accredited optometry school after 2010 and currently practicing within the United States. Survey questions may be found in Appendix A. The initial page was the informed consent acceptance. If the participant did not give his or her consent to participate by selecting the “next” option, the survey ended. Questions one through eight were designed to gain demographic insight into each participating doctor. Questions nine and ten were posed to gather practice modality and practice focus information. Question eleven was the first insight into their preparedness to be an InfantSEE provider. Question twelve asked if the participant was an InfantSEE provider which tailored the remaining questions according to their response.

InfantSEE providers were then asked further questions regarding their InfantSEE utilization in questions thirteen through fifteen. Doctors who do not participate in the program were directed to question sixteen. All participants were asked to complete the first twelve questions, which were forced-choice answers. Questions twenty through twenty-two were optional open feedback questions in an attempt to gather insight into what didactic, clinical, or continuing education experiences did or did not prepare them for infant examinations. An optional open response text box to leave a comment about the survey was also provided.

The survey was open to collect responses for 15 continuous days and each participant was informed of the closing date. A reminder was sent out through the Survey Monkey database on day eight to those who had not yet completed the survey.

Compiling the Data

Survey Monkey compiled all of the responses and data into their secure database. The survey responses could be accessed by logging into the secure account for six months. The data was compiled into separate categories via a Microsoft Excel spreadsheet to be further analyzed.

The categories the responses were organized into are as follows:

1. Graduation Year
2. Graduation Year versus Comfort
3. Gender versus Comfort
4. Percentage of InfantSEE Providers by Gender and Graduation year
5. Town Size versus InfantSEE Provider
6. Percentage of InfantSEE Providers of Overall Respondents

Analysis of the data

Survey Monkey provided some analysis via organization into bar graphs and percentages. Data was analyzed categorically. Regression analysis was performed manually on the statistical data that the Survey Monkey service was unable to analyze.

RESULTS

Two hundred sixteen (216) optometrists participated in the survey. MCPHS University, Ohio State University, Universite de Montreal, University of Incarnate Word, and University of Waterloo did not participate. While no states opted out of the survey, only 25 of the 50 states had respondents. The Michigan College of Optometry was unable to send the survey to former students due to their university rules; however, they agreed to post the survey link on their social media pages. The MCO Alumni Coordinator replied stating, “Sending info or surveys on behalf of other institutions is not allowed”. The Mississippi Optometric Association, Missouri Optometric Association, Maine Optometric Association, New Mexico Optometric Association, Optometry Association of Louisiana, Arkansas Optometric Association, and Optometric Physicians of Washington forwarded the survey to all members.

The majority of respondents were female. Interestingly, male respondents rated their comfort level with infants higher than their female counterparts. A chart summarizing the distribution of female versus male respondents and an average valuation of their preparedness to see infants on a scale of zero to ten is shown below in FIGURE 2.

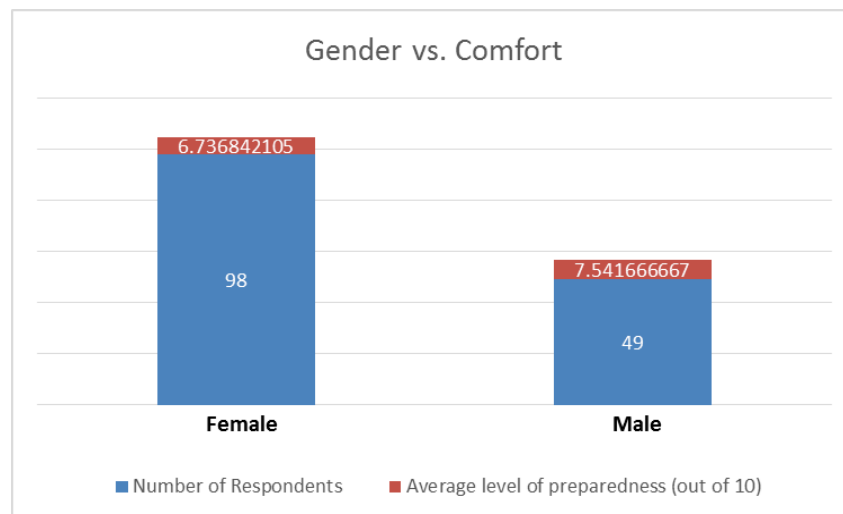


FIGURE 2.
Comfort Based on Gender Bar Graph

The graph in FIGURE 3 shows the distribution of respondents organized by their graduation year and plotted against their response of readiness to see infants on a scale of zero to ten.

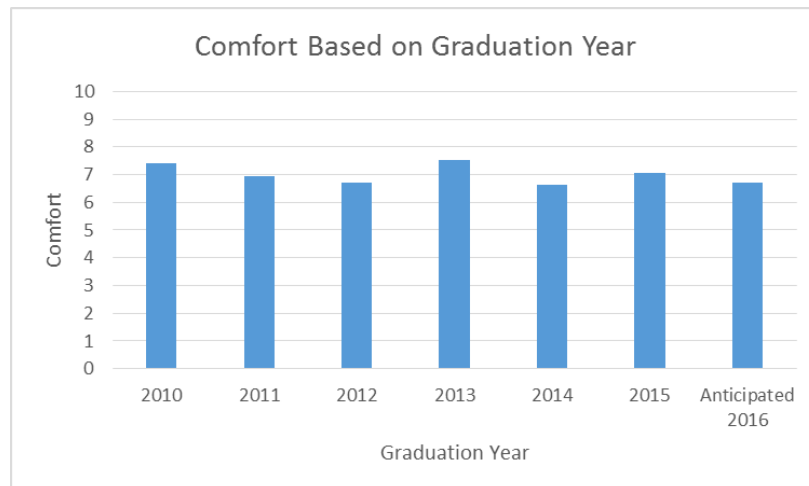


FIGURE 3.
Comfort Based on Graduation Year Bar Graph

92.52% of participants are members of the American Optometric Association, and the other 7.48% were eligible to be AOA members. 47.89% are registered InfantSEE providers, while the remaining 52.11% are not. The primary practice modality was Private Practice with 68.28% of responses. Lack of financial incentives, lack of appropriate equipment, and lack of staff preparedness, in this ranked order, were the most frequently listed reasons new graduates are not InfantSEE providers.

When asked how they market the InfantSEE program, 46.27% do not market and 31.34% only market using in-office displays. Surveyed optometrists revealed the average amount of time spent with each child during an infant vision exam was 15-20 minutes (35.25%), less than 15 minutes (28.06%), 20-30 minutes (23.74%), 30-45 minutes (9.35%), and greater than 45 minutes (3.60%). Of those that are InfantSEE providers, 88.06% of participants see 0-5 cases of treatable ocular disease diagnosed during an InfantSEE examination.

Newly graduated optometrists were asked to rate (on a scale from 1 to 10) how prepared they were to be an InfantSEE provider. The largest amount of optometrists answered 8 (19.58%), with 7 (18.18%) and 10 (16.78%) responses being close behind.

The majority of participants practice in a town with a population size 25,000 to 49,999 (17.1%). Of these participating optometrists, 64% are current InfantSEE providers. The largest state represented in this survey was Oklahoma totaling 41 responses (28.08%).

DISCUSSION

Many of the state optometric associations and optometry schools surveyed did not respond to either the initial or the reminder to participate email. Due to this, it is difficult to say who forwarded the survey to all members and alumni of their associations and schools. It is also

hard to determine which responses came from state organizations, optometry schools, or social media avenues as all three outlets were utilized to distribute said survey.

While the 2015 NSUOCO InfantSEE research project focused on exploring reasons optometrists chose not to participate in the InfantSEE program, this survey attempted to investigate how prepared recent graduates felt to provide infant vision services and recommend to the AOA how they can better serve new optometrists in their quest to become InfantSEE providers.²⁹ Despite the guided and direct questions posed in the Survey Monkey survey, there was an opportunity for free text and free response commentary. Through these comments, additional concerns regarding the InfantSEE program were brought to light. For instance, many optometrists who participated in the study indicated they believed it cost money to become an InfantSEE provider. Others stated they lacked the appropriate equipment necessary to perform infant exams. There were a number of respondents who noted that attaining reliable visual acuities on infants is impossible without the use of the aforementioned infant visual acuity equipment, like Teller Cards.

Another common theme in responses was the lack of financial compensation. One respondent pointed out that in a primarily pediatric practice, he or she would be unable to keep the office running if he or she did not charge for his or her services. It is obvious the lack of pay for infant exams has been discussed amongst optometrists in the past as a few respondents utilized the term “InfantFEE” with a few stating “InfantFEE over InfantSEE” or “I believe in InfantFEE”.

While many of the opinions of optometric physicians were brought to light through the free response text options, there were still many others that failed to provide opinions through this outlet. In this survey, free response text was optional. In the future, such valued opinions could be garnered by requiring a response to these questions. Many of our questions allowed respondents to choose some, all, or none of the given options. The thought was to gather a better understanding of actual practice modality and vision disorders detected and treated; however, this led to many of the questions remaining unanswered. In addition to some being unanswered, others provided an abundance of information that made analyzing the data difficult. In future surveys, it would behoove them to have a forced response format.

This survey focused on preparedness of recent graduates to provide vision services through InfantSEE, but results indicated that preparedness is not the issue. Due to the number of optometric physicians who requested educational materials, informational videos, and continuing education courses to better serve their pediatric population, further inquiry into the types and amounts of these items is needed. A future survey with forced choice questions pertaining to optometric physicians' preferences may be beneficial to the American Optometric Association, who requested a survey like this. The American Optometric Association could use that information to provide these educational documents and services to their members.

Optometrists felt that the majority of their infant vision training came from patient clinical encounters in optometry school (76.98%). Pediatric classes, clinics, and externship rotations were noted as additional sources of knowledge. When asked which class or clinical experience they felt they lacked, respondents stated more clinical experience was necessary during their time in optometry school. One participant pointed out, “this is more of a clinically taught skill than a classroom skill. Learning how to occlude an infant's eye cannot be taught in a classroom”. Another point of concern and lack of knowledge is infant refraction techniques. There is a general lack of understanding of when to perform a cycloplegic refraction and when to prescribe glasses for infants.

Participants felt that more awareness of the program is a necessity. One optometrist stated that they have not received any information about signing up to be a provider. Others stated they would like to see more promotion of the InfantSEE program on television and radio around the state. Creating more awareness of the program will help optometrists get more of these patients into their practice.

How can the AOA help prepare optometrists? Education was the primary response. Optometrists, especially new graduates, want guidelines, videos, specific protocols, exam technique documents, and continuing education classes. Some suggested that there be a welcome packet when a new optometric physician registers as an InfantSEE provider. Multiple participants requested official published guidelines as to what is recommended and what is required for an infant vision exam. Webinars were suggested. A list of equipment was suggested. Many others suggested the AOA promote InfantSEE through television and radio advertisement. The need for organized, easy to access information and expectations was the consensus gathered by newly graduated optometrists attempting to grow their clinical skills.

ACKNOWLEDGEMENTS

We thank Earlena McKee, OD, FAAO for her help with statistical analysis.

REFERENCES

1. Schwartz M, Steele G, Bowyer N, Lowe P, Morton W, Spangler J. InfantSEE: A Public Health Effort to Provide Comprehensive Vision Assessments to Infants Across the United States. *Optometry* 2010;81:304–5.
2. Luebbert JL. InfantSEE and Paraoptometry. *Optometry* 2005;76:359–61.
3. Wall TC, Marsh-Tootle WL, Crenshaw K, Person SD, Datla R, Kristofco RE, Hartmann EE. Design of a randomized clinical trial to improve rates of amblyopia detection in preschool aged children in primary care settings. *Contemp Clin Trials* 2011;32:204–14.
4. Press LJ. InfantSEE as a portal to early intervention for autism spectrum disorders. *Optometry* 2008;79:627–30.
5. Chen X, Fu Z, Yu J, Ding H, Bai J, Chen J, Gong Y, Zhu H, Yu R, Liu H. Prevalence of amblyopia and strabismus in Eastern China: results from screening of preschool children aged 36–72 months. *Br J Ophthalmol* 2015;1–5.
6. Kennedy S a., Noble J, Wong a. MF. Esotropia. *Can Med Assoc J* 2012;184:1279–1279.
7. Gunton KB, Wasserman BN, DeBenedictis C. Strabismus. *Prim Care Clin Off Pract* 2015;42:393–407.
8. Hutchinson AK. Intermittent exotropia. *Ophthalmol Clin North Am* 2001;14:399–406.
9. Pascual M, Huang J, Maguire MG, Kulp MT, Quinn GE, Ciner E, Cyert L a., Orel-Bixler D, Moore B, Ying GS. Risk factors for amblyopia in the vision in preschoolers study. *Ophthalmology* 2014;121:622–9.
10. Birch EE, Holmes JM. The clinical profile of amblyopia in children younger than 3 years of age. *J AAPOS* 2010;14:494–7.
11. Kirk VG, Clausen MM, Armitage MD, Arnold RW. Preverbal photoscreening for amblyogenic factors and outcomes in amblyopia treatment: early objective screening and visual acuities. *Arch Ophthalmol* 2008;126:489–92.
12. Kattouf VM, Scharre J, McMahon J, Morrissey C, Korajczyk D, Beatty R. Comprehensive vision care in urban communities: The pediatric outreach program. *Optometry* 2009;80:29–35.
13. McKean-Cowdin R, Cotter S a., Tarczy-Hornoch K, Wen G, Kim J, Borchert M, Varma R. Prevalence of amblyopia or strabismus in Asian and non-Hispanic white preschool children: Multi-ethnic pediatric eye disease study. *Ophthalmology* 2013;120:2117–24.
14. Atkinson J, Braddick O, Nardini M, Anker S. Infant hyperopia: detection, distribution, changes and correlates-outcomes from the cambridge infant screening programs. *Optom Vis Sci* 2007;84:84–96.
15. Ying GS, Maguire MG, Cyert L a., Ciner E, Quinn GE, Kulp MT, Orel-Bixler D, Moore B. Prevalence of vision disorders by racial and ethnic group among children participating in head start. *Ophthalmology* 2014;121:630–6.
16. Eye MP, Study D. Prevalence of Myopia and Hyperopia in 6- to 72-Month-Old African American and Hispanic Children: The Multi-Ethnic Pediatric Eye Disease Study. *Ophthalmology* 2010;117:140–7.e3.
17. Wen G, Tarczy-Hornoch K, McKean-Cowdin R, Cotter S a., Borchert M, Lin J, Kim J, Varma R. Prevalence of myopia, hyperopia, and astigmatism in non-hispanic white and Asian children: Multi-ethnic pediatric eye disease study. *Ophthalmology* 2013;120:2109–16.
18. Scheiman M, Gallaway M, Coulter R. Prevalence of vision and ocular disease conditions in a clinical pediatric population. *J Am Optom Assoc* 1996;67:193–202.
19. Su Z, Marvin EK, Wang BQ, van Zyl T, Elia MD, Garza EN, Salchow DJ, Forster SH. Identifying barriers to follow-up eye care for children after failed vision screening in a primary care setting. *J AAPOS* 2013;17:385–90.
20. Freeman PB. No child left behind...visually. *Optometry* 2007;78:1–2.

21. Miller JR. Marketing the InfantSEE program at the local level. *Optometry* 2007;78:365–8.
22. Nye C. A child's vision. *Pediatr Clin North Am* 2014;61:495–503.
23. Hussein M a., Weakley D, Wirazka T, Paysse EE. The long-term outcomes in children who are not compliant with spectacle treatment for accommodative esotropia. *J Am Assoc Pediatr Ophthalmol Strabismus* 2015;19:169–71.
24. Pineles SL, Velez FG, Isenberg SJ, Fenoglio Z, Birch E, Nusinowitz S, Demer JL. Functional Burden of Strabismus. *JAMA Ophthalmol* 2013;131:1413.
25. Davidson S, Quinn GE. The impact of pediatric vision disorders in adulthood. *Pediatrics* 2011;127:334–9.
26. Coulter RA, Bade A, Tea Y, Fecho G, Amster D, Jenewein E, Rodena J, Lyons KK, Mitchell GL, Quint N, Dunbar S, Ricamato M, Trocchio J, Kabat B, Garcia C, Radik I. Eye Examination Testability in Children with Autism and in Typical Peers. *Optom Vis Sci* 2015;92:31–43.
27. Sloot F, Sami A, Karaman H, Benjamins J, Loudon SE, Raat H, Sjoerdsma T, Simonsz HJ. Effect of omission of population-based eye screening at age 6-9 months in the Netherlands. *Acta Ophthalmol* 2015;93:318–21.
28. Mutti DO, Mitchell GL, Jones L a, Friedman NE, Frane SL, Lin WK, Moeschberger ML, Zadnik K. Accommodation, acuity, and their relationship to emmetropization in infants. *Optom Vis Sci* 2009;86:666–76.
29. Proctor A, Zinser A, Brewer A. InfantSEE: Scoping Out the National Application of this Public Health Program. 2015:1–14.

Cassidy Kesler

Email: winkler@nsuok.edu

Laura Langford

Email: langforl@nsuok.edu

APPENDIX A

1. What year did you graduate from optometry school?
 - a. 2010
 - b. 2011
 - c. 2012
 - d. 2013
 - e. 2014
 - f. 2015
 - g. Anticipated 2016
 - h. Before 2010 (if this is chosen prompt “thank you for your time” and the survey is over)
2. Are you male or female?
 - a. Male
 - b. Female
3. Are you a member of the American Optometric Association?
 - a. Yes
 - b. No
4. Are you eligible to be a member of the American Optometric Association?
 - a. Yes
 - b. No (if this is chosen prompt “thank you for your time” and the survey is over)
5. Which college of optometry are you a graduate of?
 - a. Illinois College of Optometry
 - b. Indiana University
 - c. Inter-American University of Puerto Rico
 - d. MCPHS University
 - e. Michigan College of Optometry
 - f. Midwestern University- Arizona College of Optometry
 - g. New England College of Optometry
 - h. Northeastern State University Oklahoma College of Optometry
 - i. Nova Southeastern University
 - j. Ohio State University
 - k. Pacific University
 - l. Pennsylvania College of Optometry
 - m. Southern California College of Optometry
 - n. Southern College of Optometry
 - o. State University of New York
 - p. Université de Montréal
 - q. University of Alabama at Birmingham
 - r. University of California- Berkeley
 - s. University of Missouri at St. Louis
 - t. University of Houston
 - u. University of Incarnate Word
 - v. University of Waterloo School of Optometry
 - w. Western University of Health Sciences
6. Which state are you currently primarily practicing in?
 - a. Alabama
 - b. Alaska
 - c. Arizona
 - d. Arkansas
 - e. California
 - f. Colorado

- g. Connecticut
 - h. Delaware
 - i. Florida
 - j. Georgia
 - k. Hawaii
 - l. Idaho
 - m. Illinois
 - n. Indiana
 - o. Iowa
 - p. Kansas
 - q. Kentucky
 - r. Louisiana
 - s. Maine
 - t. Maryland
 - u. Massachusetts
 - v. Michigan
 - w. Minnesota
 - x. Mississippi
 - y. Missouri
 - z. Montana
 - aa. Nebraska
 - bb. Nevada
 - cc. New Hampshire
 - dd. New Jersey
 - ee. New Mexico
 - ff. New York
 - gg. North Carolina
 - hh. North Dakota
 - ii. Ohio
 - jj. Oklahoma
 - kk. Oregon
 - ll. Pennsylvania
 - mm. Rhode Island
 - nn. South Carolina
 - oo. South Dakota
 - pp. Tennessee
 - qq. Texas
 - rr. Utah
 - ss. Vermont
 - tt. Virginia
 - uu. Washington
 - vv. West Virginia
 - ww. Wisconsin
 - xx. Wyoming
7. Which state(s) are you licensed in? Check all that apply.
- a. Alabama
 - b. Alaska
 - c. Arizona
 - d. Arkansas
 - e. California
 - f. Colorado
 - g. Connecticut
 - h. Delaware
 - i. Florida
 - j. Georgia

- k. Hawaii
 - l. Idaho
 - m. Illinois
 - n. Indiana
 - o. Iowa
 - p. Kansas
 - q. Kentucky
 - r. Louisiana
 - s. Maine
 - t. Maryland
 - u. Massachusetts
 - v. Michigan
 - w. Minnesota
 - x. Mississippi
 - y. Missouri
 - z. Montana
 - aa. Nebraska
 - bb. Nevada
 - cc. New Hampshire
 - dd. New Jersey
 - ee. New Mexico
 - ff. New York
 - gg. North Carolina
 - hh. North Dakota
 - ii. Ohio
 - jj. Oklahoma
 - kk. Oregon
 - ll. Pennsylvania
 - mm. Rhode Island
 - nn. South Carolina
 - oo. South Dakota
 - pp. Tennessee
 - qq. Texas
 - rr. Utah
 - ss. Vermont
 - tt. Virginia
 - uu. Washington
 - vv. West Virginia
 - ww. Wisconsin
 - xx. Wyoming
8. What is the population size of the town in which your primary practice is located?
- a. <1,000
 - b. 1,000-2,999
 - c. 3,000-4,999
 - d. 5,000-11,999
 - e. 12,000-24,999
 - f. 25,000-49,999
 - g. 50,000-99,999
 - h. 100,000-199,999
 - i. 200,000-299,999
 - j. 300,000-499,999
 - k. >500,000
9. What is your current practice modality?
- a. Private practice

- b. Corporate practice
 - c. Hospital based practice
 - d. MD/OD practice
 - e. Academia
 - f. Residency
10. What is your primary practice focus?
- a. Contact lens
 - b. Low vision
 - c. Ocular Disease
 - d. Pediatrics
 - e. Primary care
 - f. Vision therapy
 - g. Other
11. On a scale from 1 to 10 (with 1 being not at all and 10 being fully-prepared) how prepared do you feel you are to be an InfantSEE provider?
- 1 2 3 4 5 6 7 8 9 10
12. Are you currently an InfantSEE Provider?
- a. Yes
 - b. No (if no, skip to question 16)
13. If you are an InfantSEE provider, how many InfantSEE exams do you perform per year?
- a. 0-5
 - b. 6-10
 - c. 11-15
 - d. 16-20
 - e. >20
14. Through InfantSEE examinations, how many cases of treatable ocular disease do you diagnose in a year?
- a. 0-5
 - b. 6-10
 - c. 11-15
 - d. 16-20
 - e. >20
15. How do you market the InfantSEE program? Check all that apply.
- a. Provide pamphlets for new mothers to local hospitals
 - b. Social media
 - c. Presentations at community events
 - d. In-office display
 - e. I really don't market that I am a provider
 - f. Other
16. If you are not currently an InfantSEE provider, why have you chosen not to be? (Open feedback option)
- a. Lack of preparedness
 - b. Uncomfortable around small children
 - c. Lack of financial incentive
 - d. I am currently an InfantSEE provider
 - e. I once was but now I am not because... (open feedback)
 - f. I am employed by the armed services
 - g. I work for the VA health systems
 - h. Other (see open feedback below)

17. If you are not currently an InfantSEE provider, how many infant examinations do you perform in a year?
- a. 0-5
 - b. 6-10
 - c. 11-15
 - d. 16-20
 - e. >20
 - f. I am currently an InfantSEE provider
18. On average, how much time do you spend with each child during an infant vision exam?
- a. <15 minutes
 - b. 15-20 minutes
 - c. 20-30 minutes
 - d. 30-45 minutes
 - e. >45 minutes
19. What experiences helped prepare you for infant vision exams? (Choose all that apply)
- a. Patient clinical encounters in optometry school
 - b. Classroom experiences in optometry school
 - c. Residency training
 - d. Continuing education (conferences or otherwise)
 - e. Patient encounters post-graduation
20. In optometry school, what class and/or clinical experiences prepared you for infant vision exams? (Open feedback)
21. In optometry school, what class and/or clinical experiences do you wish you had that could have better prepared you for infant vision exams? (Open feedback)
22. What are ways in which the AOA can help prepare optometrists to examine infants and children? (Open feedback)
23. Comments, questions or general feedback? (Open feedback)