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NHSA Vision Screening Survey Results
Parent Focus Group Results
What's Working and What Needs to Work

An educational presentation from the *Year of Children's Vision* initiative

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Head Start 2013 National Vision Screening Survey Results

Survey by Jean E Ramsey MD MPH, Kira Baldonado, Kay Nottingham Chaplin, and Jane Adams from Head Start

Results compiled by Nikil Moodabagil

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About the Year of Children's Vision (YOCV)

- YOCV is a collaborative initiative of American Association for Pediatric Ophthalmology and Strabismus (AAPOS), National Head Start Association, Good-Lite, School Health and the National Center for Children's Vision and Eye Health at Prevent Blindness America. It is supported by other leading national vision health organizations, including the American Academy of Optometry. For a complete list and other resources go to: http://nationalcenter.preventblindness.org/year-childrens-vision
- The goal of YOCV is to provide national guidance to staff of Head Start, Early Head Start and other early childhood programs to standardize approaches to vision screening, improve follow-up for eye care, provide family friendly educational information and consult with some of the nation's leading pediatric eye care providers to ensure best practices.

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Jean E. Ramsey, MD MPH

for the

American Association for Pediatric Ophthalmology and Strabismus (AAPOS)

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Vice-Chair of Executive Committee

Chair, Technical Advisory COmmittee

National Center for Children's Vision and Eye Health

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Head Start Program Performance Standards

- In collaboration with the child's parents:
  - Perform or obtain age-appropriate vision screening to identify areas of concern within 45 days of entry
  - Establish a follow-up system for children with identified health needs
  - Implement ongoing procedures to identify new or recurring developmental concerns

Code of Federal Regulations Title 45, Volume 1

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Vision Screening: Purpose

To ensure that every child develops his/her maximum visual potential

To identify children who may have vision impairment that might interfere with overall development and learning

Refractive Errors: Glasses alone may improve vision

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- Myopia (Near-Sightedness)
- Hyperopia (Far-Sightedness)
- Astigmatism

Preschool Vision Screening: Purpose

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To identify children who may have a vision problem that could lead to permanent visual loss if not detected and treated early

Amblyopia

National Head Start Association 2013 Vision Screening Survey

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- Survey developed and sent to 1308 people around the country to determine how children in Head Start are being screened, what methodology is being used, and challenges faced by centers around the country.
- Survey Instructions: **"Please help us by completing this survey. With your participation we can identify common concerns and develop resources in support of your vision screening programs. Together we can make certain that all children are given the opportunity to develop their full visual potential."**
- 131 responses: 10% response rate
- Goals:
  - (1) determine areas that Head Start centers would like education and guidance and
  - (2) share best practices and evidence based guidelines for vision screening

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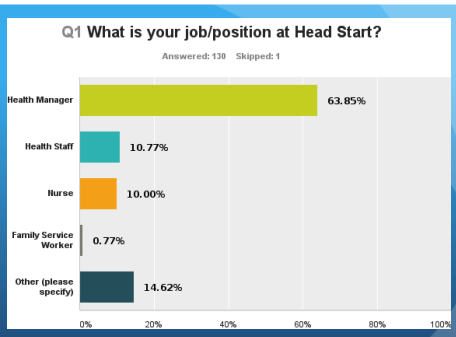

- "Other": Clinicians, Behavioral Health Staff, Health Advocates/Specialists/Coordinators, Nutritionists, and Executive Directors

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- Nearly three quarters of respondents have worked five or more years
  Forty two percent of respondents worked more than ten years

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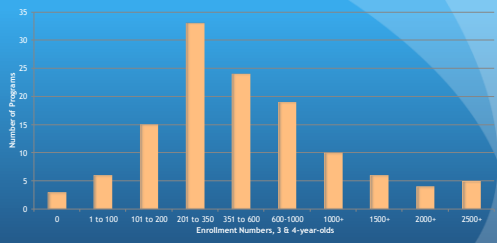

- Most Head Start programs have between 100-1000 3 and 4-year-olds enrolled.
  Total number of enrolled children reported by respondents was 83,873

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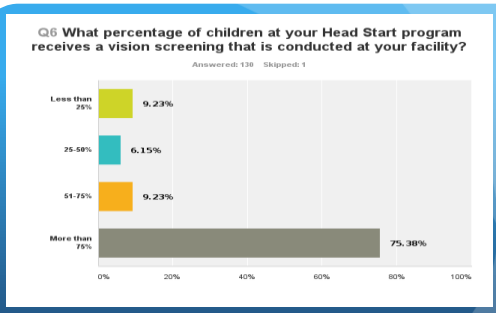

- Three quarters of the programs screen more than 75% of their children at the Head Start facility

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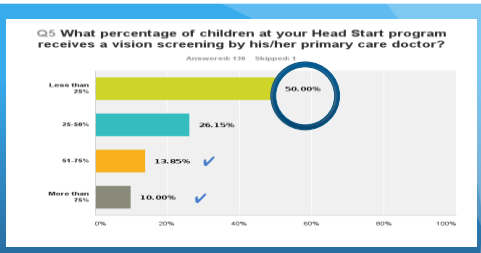

- Many children do not receive PCP vision screening:
  - One half of respondents reported that fewer than 25% of children are screened by PCP.
  - Only a quarter reported that more than half of the children receive PCP screening.
- Follow-up question: Is it helpful to have vision screening done by PCP?

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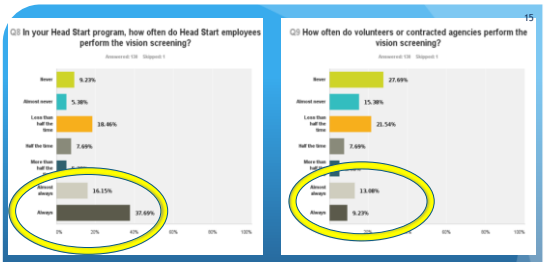

- More than half report that Head Start employees almost always or always perform the vision screening.
- Less than a quarter report that contracted agencies almost always or always perform the vision screening.

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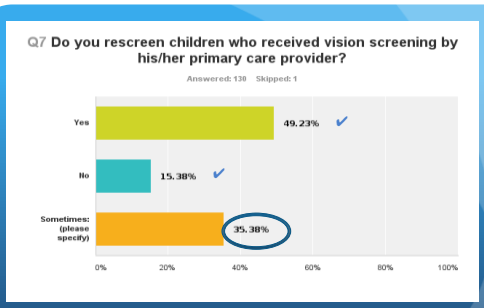

- Half rescreen children who have received screening by PCP
- Fifteen percent do not rescreen if PCP performs a vision screening.
- Thirty five percent checked “Sometimes”.

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Written Responses from “Sometimes”

- Of the 35% who sometimes rescreen children, 46 provided written responses:
  - Concern expressed by parent/teacher/staff
  - Extended time between physical and entrance
  - Child uncooperative at physician office
  - Failed PCP screening and/or no numerical visual acuity recorded: Ex. recorded as grossly normal
  - Documentation unavailable
  - No rescreen if objective method used; if not objective screen, will rescreen**
  - No rescreen if under optom/ophtho care **
  - Follow-up question: Is follow-up with eye care provider monitored and up to date?

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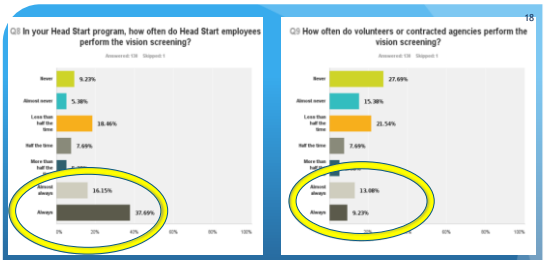

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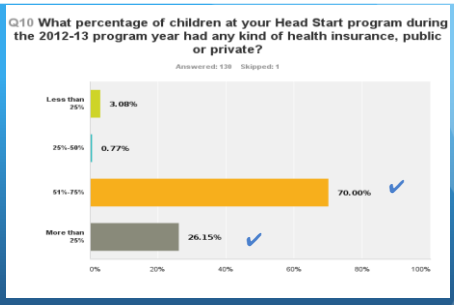

- Twenty six percent of respondents report that more than 75% of enrollees have insurance.
- Nearly all respondents report that more than half of the children at their program have health insurance

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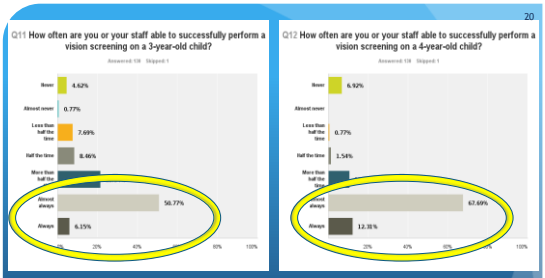

- 57% report being able to screen 3 year olds almost always or always
- 70% report being able to screen 4 year olds almost always or always
- As expected, 4-yr-old children were successfully screened more frequently than 3-yr-old children.

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Massachusetts Preschool Vision Screening Baseline data

- Questionnaire was mailed with initial vision screening training materials
  - 11 questions: assess attitude and behavior
  - Over 600 returned; 491 complete
  - 78% attempt a vision screening on 3-5 year olds nearly all the time
  - 44% successfully complete a vision screening on 3-5 year olds nearly all the time

Lynne McIntyre, RN, PhD, DPH

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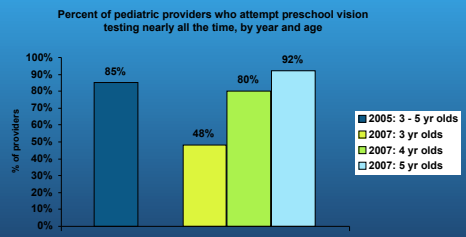
Massachusetts Preschool Vision Testing by PCP



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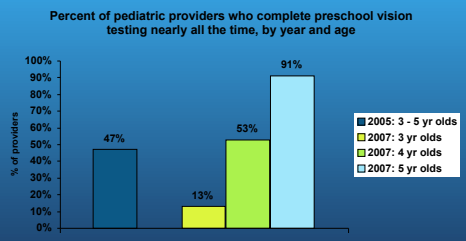
Massachusetts Preschool Vision Testing by PCP



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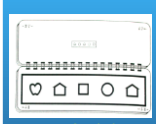
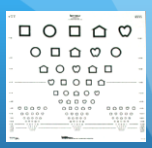
Most of the time what do you or your staff use to assess visual acuity in 3 or 4 year old child?



Lea Symbols



HOTV letters

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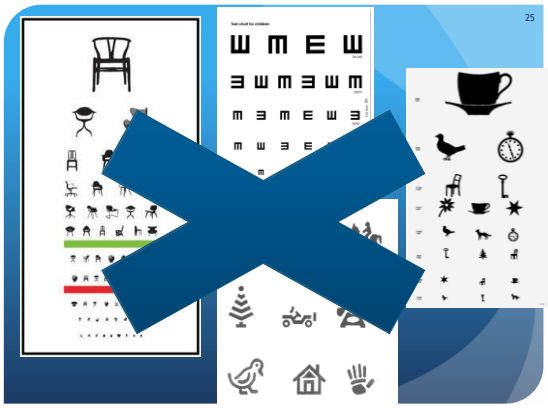

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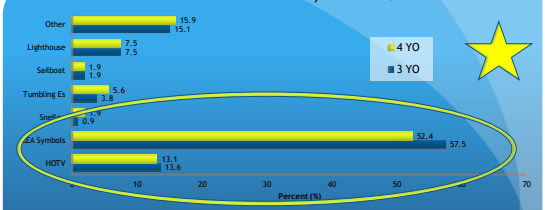
VA Assessment Methods, 3 and 4 YO



- Most Head Start programs are using evidence-based optotypes (Lea symbols and HOTV): 65-71%
- Nearly all of the respondents who selected "other" use some sort of instrument based screening;
  - Sure Sight (16), SPOT (4))
  - Allen Cards (3)
  - Screenings done by other organizations, such as Lions Club

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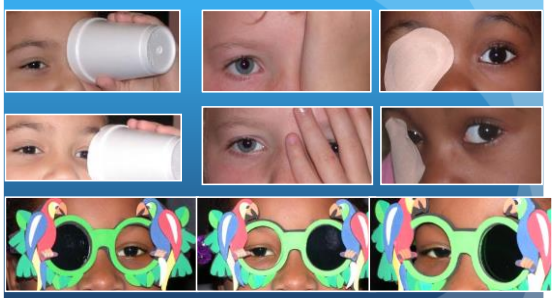
How do you cover the eye when assessing visual acuity in preschool children?



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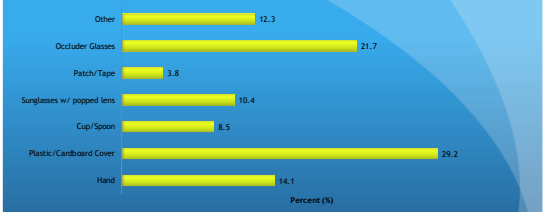
Eye Occlusion Method Used, 3 & 4 YO



Many programs may be using suboptimal means to occlude

- Hands: 14%
- Cup/spoon: 8%
- Cardboard cover: 29%
- Home-fashioned sunglasses: 10%

- Majority of "other" use instrument-based screening

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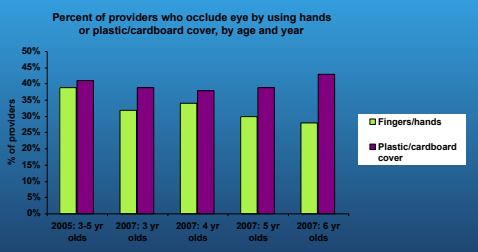
Massachusetts PCP: Method of Occluding Eye



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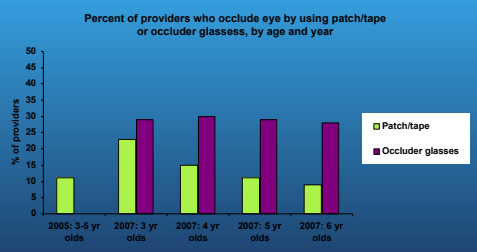
Massachusetts PCP: Method of Occluding Eye



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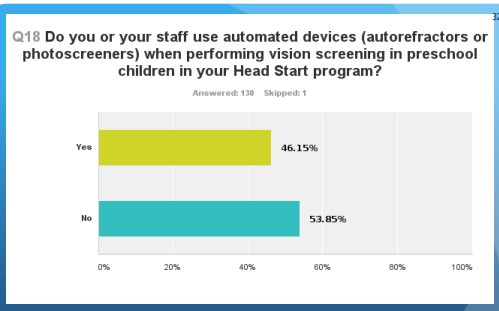

- Unable to detect difference in response by size of center

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American Academy of Pediatrics: Instrument-Based Pediatric Vision Screening Recommendations (2012)

- **Photoscreening and handheld autorefraction are recommended as an alternative to visual acuity screening with vision charts from 3 through 5 years of age,** after which visual acuity screening with vision charts becomes more efficient and less costly in the medical home.
- Alternatively, the use of vision charts and standard physical examination techniques to assess amblyopia in children 3 to 5 years of age in the medical home remains a viable practice at the present time.

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American Academy of Pediatrics: Instrument-Based Pediatric Vision Screening Recommendations (2012)

- Vision screening should be performed at an early age and at regular intervals with age-appropriate, valid methods, ideally within the medical home. The goal remains to identify and treat preventable visual impairment at the earliest feasible age.
- Photoscreening and handheld autorefraction may be electively performed in children 6 months to 3 years of age, allowing earlier detection of conditions that may lead to amblyopia, as well as in older children who are unable or unwilling to cooperate with routine acuity screening.

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U.S. Preventive Services Task Force 2011 Recommendation Statement

The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of vision screening for children <3 years of age.
Grade: I statement.

I Statement: Evidence is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined. If the service is offered, patients should understand the uncertainty about the balance of benefits and harms.

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Instrument-Based Screening

- Does not replace acuity screening (subjective).
  - For children 4 to 5 years of age, photoscreening and autorefraction have not been shown to be superior or inferior to visual acuity testing with the use of vision charts
- Advantages:
  - Not dependent on behavioral responses from the child (objective).
  - Requires minimal cooperation of the child, and may be especially useful in the preverbal, preliterate, or developmentally delayed child.
  - Typically quick
  - Produces a hard copy or digital record for inclusion in the patient record to document that screening was performed and, in some cases, provide an interpretation of the data.

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Instrument-Based Screening

- Disadvantages:
  - All involve substantial costs to the primary care practice. The instruments themselves often cost thousands of dollars, in addition to the costs of printers and supplies for each test performed.
  - Some measure only one eye at a time, limiting their ability to detect strabismus in the absence of abnormal refractive error.
  - Learning curve with some of the instruments
- Devices generally fall into one of two categories:
  - Photoscreeners
  - Autorefractors

Which specific instruments or devices do you or your staff use when performing vision screening in preschool children in your program?

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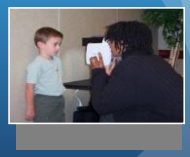
Autorefractors: An instrument that utilizes automated optical methods to determine the refractive error of an eye, detecting errors likely to cause strabismus and/or amblyopia.





Welch Allyn SureSight

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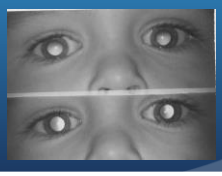
Photorefractors: An instrument that utilizes optical images of the eye's red reflex to estimate refractive error, ocular alignment and other conditions degrading or blocking line of sight.

- Image is interpreted: trained operator, reading center, computer or instrument itself
- Photoscreeners assess both eyes simultaneously.



MTI Photoscreener

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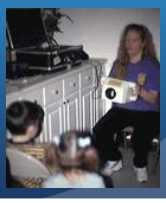
- Hand held device, extensively studied
- Obtains two Polaroid photographs of the eye which are then manually interpreted; often outsourced
- Limited availability of film
- Company no longer in business; some devices are still in use

http://vimeo.com/38989344



SPOT Vision Screener

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- Screens from three feet away; capture time one second
- Both eyes screened simultaneously
- Results immediate and wirelessly transferred to lap top computer; report generated
- Touch screen interface

http://vimeo.com/38970249

PlusoptiX

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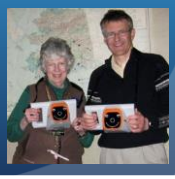
- German made, and extensively validated computer-interpreted photoscreener
- User-selected age-dependent referral criteria
- Hand held camera requires cable to computer, separate monitor and printer
- Sound directed fixation and focal distance

http://vimeo.com/38965309



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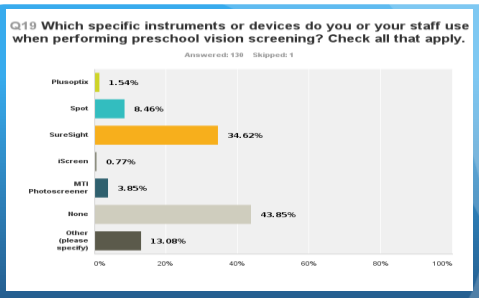

- Of those reporting instruments: Sure Sight 70%, SPOT 17%

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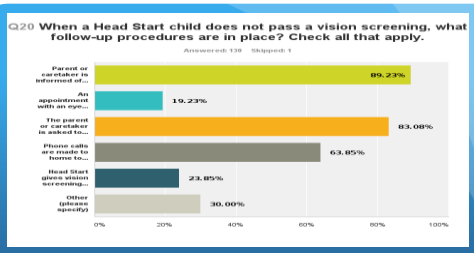

- Parent or caretaker informed of results: 89%
- An appointment with an eye doctor is scheduled by Head Start staff: 19%
- The parent of caretaker is asked to schedule an appointment with eye doctor: 83%
- Phone calls are made to the home to ensure that child was seen by eye doctor: 64%
- Head Start gives vision screening results to the child's physician: 24%

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What follow-up procedures are in place when a child does not pass a vision screening?

- **"Other" Category:**
  - Many do a rescreen 2 weeks to 6 months later **
  - Many refer children to PCP for referral to eye specialist.
  - Assist with scheduling appointment
  - Going to appointment, reminder letters, follow-up with parent in person
  - Pay for service if assistance needed
  - Resource information provided
  - Assist parents as needed
  - Continued follow-up until receive medical documentation of the child's vision

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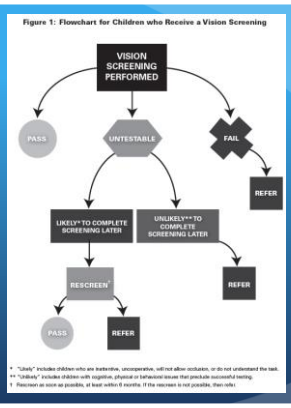

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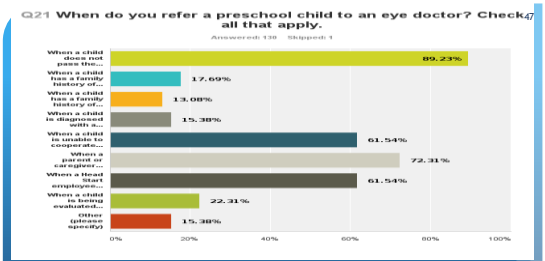

- When a child does not pass the preschool vision screening: 89%
- When a child is unable to cooperate with a vision screening: 62%
- When a parent or caregiver expresses concern about the child's vision: 72%
- When a Head Start employee expresses concern about the child's vision: 62%

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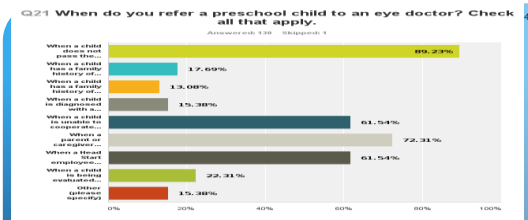

- When a child has a **family history** of a "lazy eye": 18%
- When a child has a **family history** of "crossed eyes": 13%
- When a child is diagnosed with developmental delay: 15%
- When a child is being evaluated for an Individualized Education Program (IEP): 22%
- Other: 15%: Not pass two attempted screenings
  - Primary care physician contacted first due to insurance considerations

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American Academy of Ophthalmology: Pediatric Referral Guidelines

Low-risk children: Vision screening

High-risk children: Comprehensive eye exam

Indications for Referral for a Comprehensive Pediatric Ophthalmic Evaluation

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Indication	Specific Examples
Risk factors (general health problems, systemic disease, or use of medications that are known to be associated with eye disease and visual abnormalities)	• **Prematurity (birthweight less than 1500 grams or gestational age 30 weeks or less)** • Retinopathy of prematurity • Intrauterine growth retardation • Perinatal complications (evaluation at birth and at 6 months) • **Neurological disorders or neurodevelopmental delay (upon diagnosis)** • Juvenile idiopathic arthritis (upon diagnosis) • Thyroid disease • Cleft palate or other craniofacial abnormalities • Diabetes mellitus (5 years after onset) • Systemic syndromes with known ocular manifestations (at 6 months or upon diagnosis) • Chronic systemic corticosteroid therapy or other medications known to cause eye disease • **Suspected child abuse**

Amblyopia and strabismus: 16-34%

Preferred Practice Patterns Committee, Pediatric Ophthalmology Panel. Pediatric Eye Evaluations: Screening and Comprehensive Ophthalmic Evaluation. San Francisco: American Academy of Ophthalmology;2007

Indications for Referral for a Comprehensive Pediatric Ophthalmic Evaluation

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Indication	Specific Examples
A family history of conditions that cause or are associated with eye or vision problems	Retinoblastoma • Childhood cataract • Childhood glaucoma • Retinal dystrophy/degeneration • **Strabismus** • **Amblyopia** • **Eyeglasses in early childhood** • Sickle cell anemia • Systemic syndromes with known ocular manifestations • Any history of childhood blindness not due to trauma in a parent or sibling

Preferred Practice Patterns Committee, Pediatric Ophthalmology Panel. Pediatric Eye Evaluations: Screening and Comprehensive Ophthalmic Evaluation. San Francisco: American Academy of Ophthalmology;2007

Indications for Referral for a Comprehensive Pediatric Ophthalmic Evaluation

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Indication	Specific Examples
*Signs or symptoms of eye problems by history or observations by family members**	Defective ocular fixation or visual interactions • Abnormal light reflex (including both the corneal light reflections and the red fundus reflection) • Abnormal or irregular pupils • Large and/or cloudy eyes • Drooping eyelid • Lumps or swelling around the eyes • Ocular alignment or movement abnormality • Nystagmus (shaking of eyes) • Persistent tearing, ocular discharge • Persistent or recurrent redness • Persistent light sensitivity • Squinting/eye closure • Persistent head tilt • Learning disabilities or dyslexia

Preferred Practice Patterns Committee, Pediatric Ophthalmology Panel. Pediatric Eye Evaluations: Screening and Comprehensive Ophthalmic Evaluation. San Francisco: American Academy of Ophthalmology;2007

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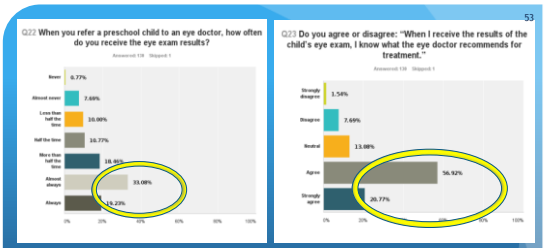

- 52% receive eye exam results always or almost always
  - 81% of programs receive eye exam results from eye doctor at least half the time
- 78% agree or strongly agree that they know what the eye doctor is recommending from the eye exam results
  - 22% may need more information ***
- Follow-up question: Do ALL involved in the child's care understand the recommendations?

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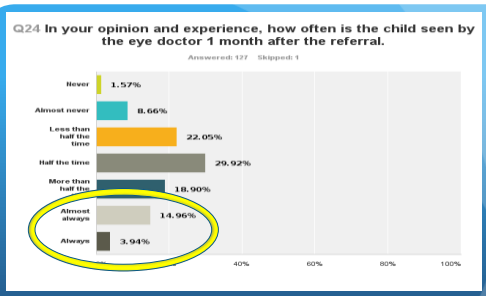

- Only 18% report that a child is always or almost seen by the eye doctor within one month after referral.
- Two thirds report that children are seen half the time or more

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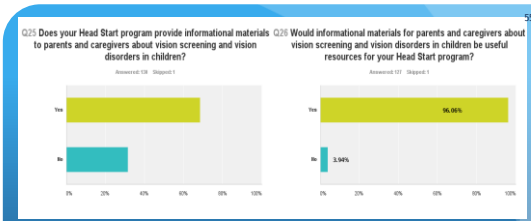

- 32% of programs do not provide informational materials to parents and caregivers about vision screening and vision disorders in children.
- 96% feel that it is or would be a useful resource for them
- Some programs that have materials also report that materials would be useful

- Follow-up question: Is this a desire for additional materials or lack of confidence with what is being distributed?

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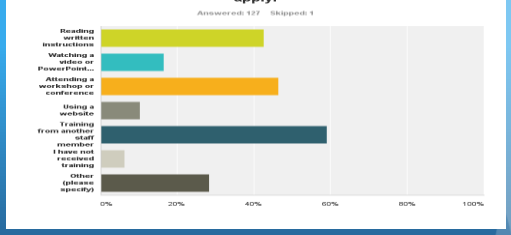
Q27 How do you/program staff learn to screen vision? Check all that apply.



- Lots of methods being used
- Do not know which combinations of training methods are utilized
- "Other": certification by state/local health agency, PBA (Prevent Blindness America), Good Lite, manufacturers of instruments and training by eye care providers and nurses
- Follow-up question: Which methods are considered the most valuable?

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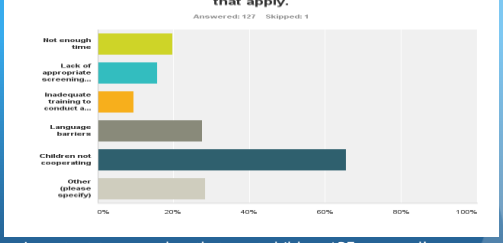
Q28 In your opinion and experience, what issues at your program prevent you from effectively assessing children's vision? Check all that apply.



- Important to remember that most children ARE screened!
- Language barriers and lack of cooperation from children most commonly identified issues
- "Other":
  - adequate screening space, equipment failure, absenteeism, children with developmental delay, autism, ADHD or other behavioral issues

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Q29. In your opinion and experience, what are the top three barriers that stop children from seeing the eye doctor once they've failed a vision screen?

- Main barriers listed:
  - **(1) Parental Involvement ******
    - Lack of knowledge re: importance of vision
    - Unconvinced child has problem
      - Parent denial/apprehension
    - Busy parent schedules/working parents
    - Transportation/Work/School
    - No money for glasses, etc.
    - Insurance
    - Uninterested in referral/follow-up for care
    - No follow through with appointments

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Q29. In your opinion and experience, what are the top three barriers that stop children from seeing the eye doctor once they've failed a vision screen?

- Main barriers listed:
  - **(2) Transportation**
    - Long distance
    - No adequate transportation
    - No public transportation
    - Cost of travel
  - **(3) Insurance/Providers**
    - Few local providers
    - Few Medicaid-accepting providers
    - Long distance to providers
    - Long delays for appointment
  - **(4) Language**

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Summary

- Most screening done by staff at the Head Start facility
  - Few children are reported to have screening done by PCP
- Majority of children have health insurance, but this remains a problem for some children
- Staff able to successfully perform vision screening on three and four year olds
- Most using age-appropriate and evidence based optotype
- Large number occlude properly, but some do not appear to be using appropriate tools
- Nearly half of centers doing instrument based screening

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Summary

- Many good follow-up procedures in place for children who do not pass the vision screening
- Children referred to eye doctor for behavior observations by staff and parents; less referred based on family history and risk factors
- Primary barrier identified revolved around the role of the parent: parent knowledge, concern, awareness, lack of follow-up, lack of time, busy work schedules, denial, fear
- Other important barriers: transportation, insurance, and language