

Session 17: Vision Screening for Children in Senior Kindergarten

- Vision Screening Research
 - Daphne Maurer, Mayu Nishimura
- Ottawa: Pilot Project
 - Lyne Lafrance
- Toronto: Visual Health Promotion
 - Vincenza Pietropaolo, Jessica Harding
- Porcupine: Remote Communities
 - Anna Gauthier
- Q&A

Checking Vision in Senior Kindergarten: Background Research

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Mayu Nishimura, Director of Research

- Not part of Ministry or on Ministry contract

Amblyopia: 2-8% of kindergarten children

Reduced vision in sound eye from history of:

- Unequal refractive error: anisometropic
- Misalignment: strabismic

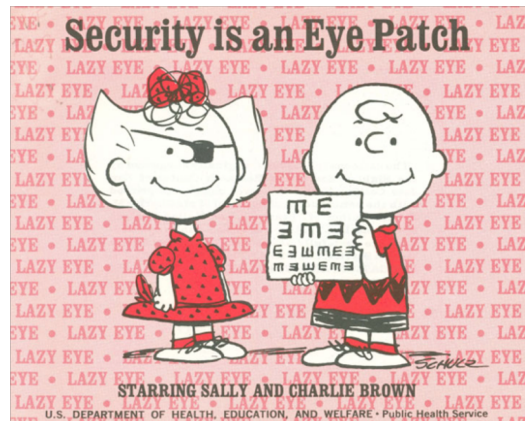


Amblyopia: 2-8% of kindergarten children

Reduced vision in sound eye from history of:

- Unequal refractive error: anisometropic
- Misalignment: strabismic

Treatment more effective before ~ age 7



Binocular vision disorder

3-5% of kindergarten children

- Reduced stereovision
- Strabismus: eyes are not straight



Risk factors for amblyopia

Refractive error: misfocus

- 10-20% of kindergarten children



Poorer reading readiness

Poorer IQ scores

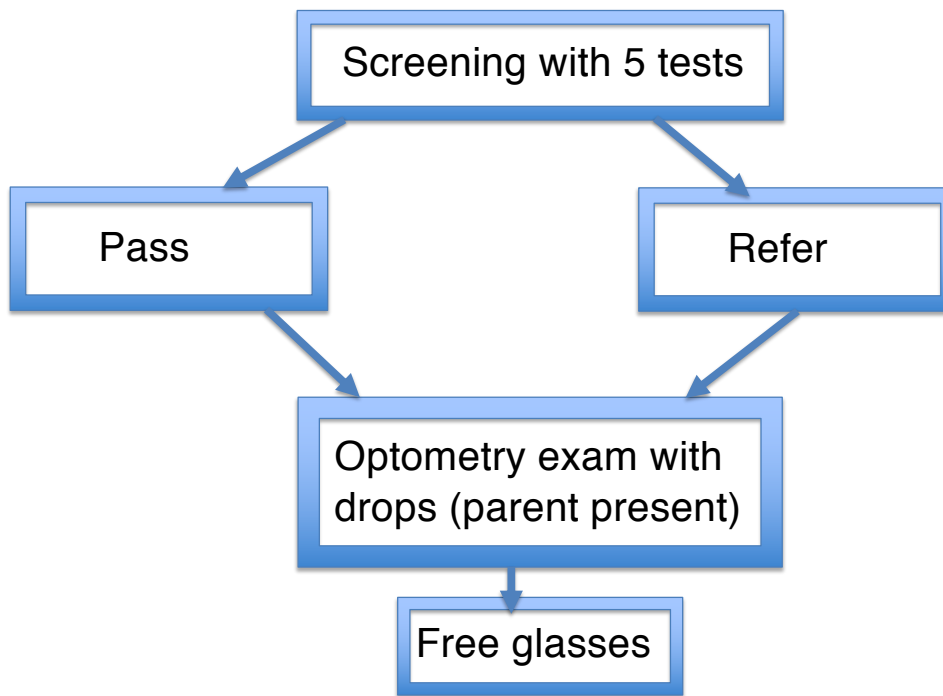
The problems

- Amblyopia (lazy eye): 2-8%
- Strabismus/reduced stereo: 3-5%
- Refractive error (misfocus): 10-20%

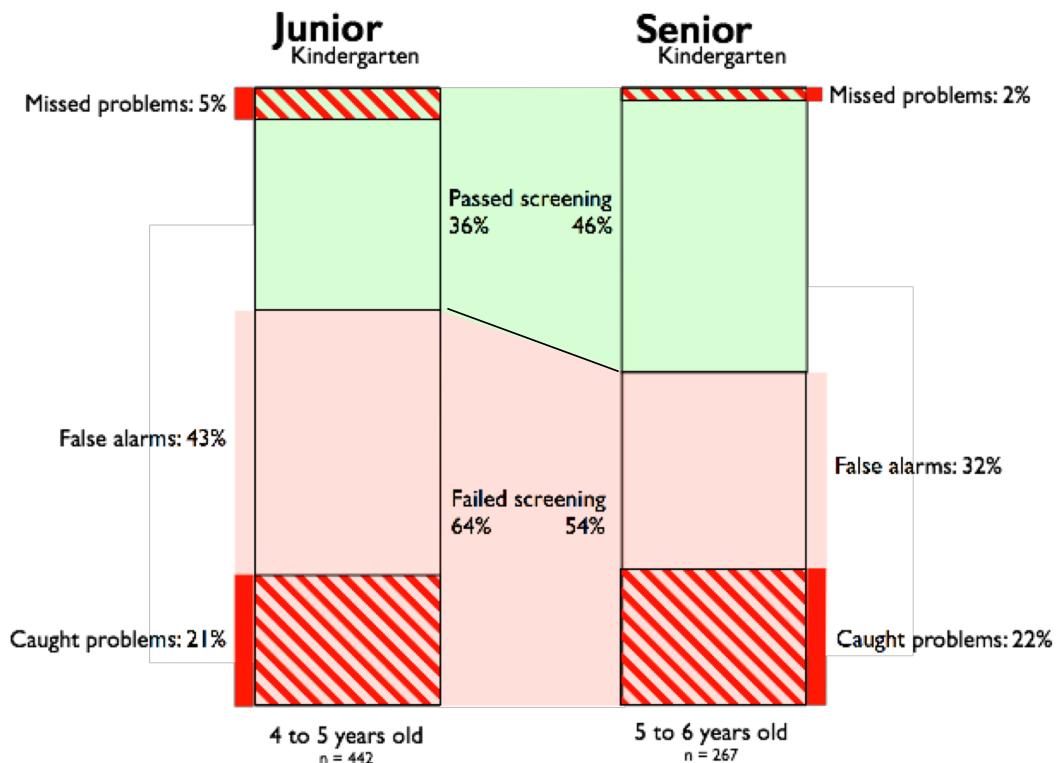
Social Barriers

- Annual eye exams are free until age 19.
- Parents do not take children to optometrist.
 - too busy, no time off work, unaware of importance, unaware that it's free
 - Even with Eye See...Eye Learn providing free glasses, only 20% of parents of JK children participated.

Does screening work?



Why SK?



	Eye Problem	No Problem	Total
Referred	151	276	427
Passed	29	256	285
Total	180	532	712

Sensitivity = 0.84 (95% CI: 0.78-0.89)

Specificity = 0.48 (95% CI: 0.44-0.53)

Junior Kindergarten

Sensitivity = 0.80

Specificity = 0.42

Senior Kindergarten

Sensitivity = 0.91

Specificity = 0.58

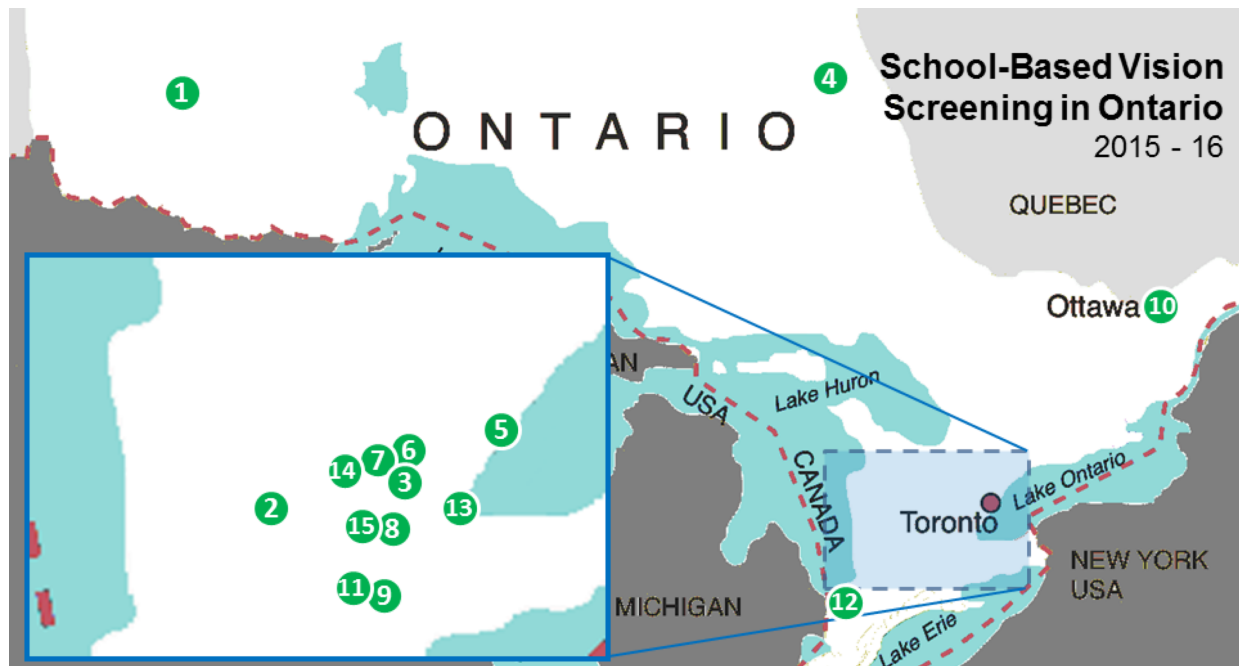
Kindergarten visual screening
is effective for
detecting visual problems.

Does It Make A Difference?

Compare % children wearing glasses in schools with vs. without our program

	Children Enrolled	September Glasses Counts	June Glasses Counts
Our Program	661	14 = 2%	56 = 10%
No Program	581	15 = 2%	20 = 3%

“No Program” schools received the program the following year

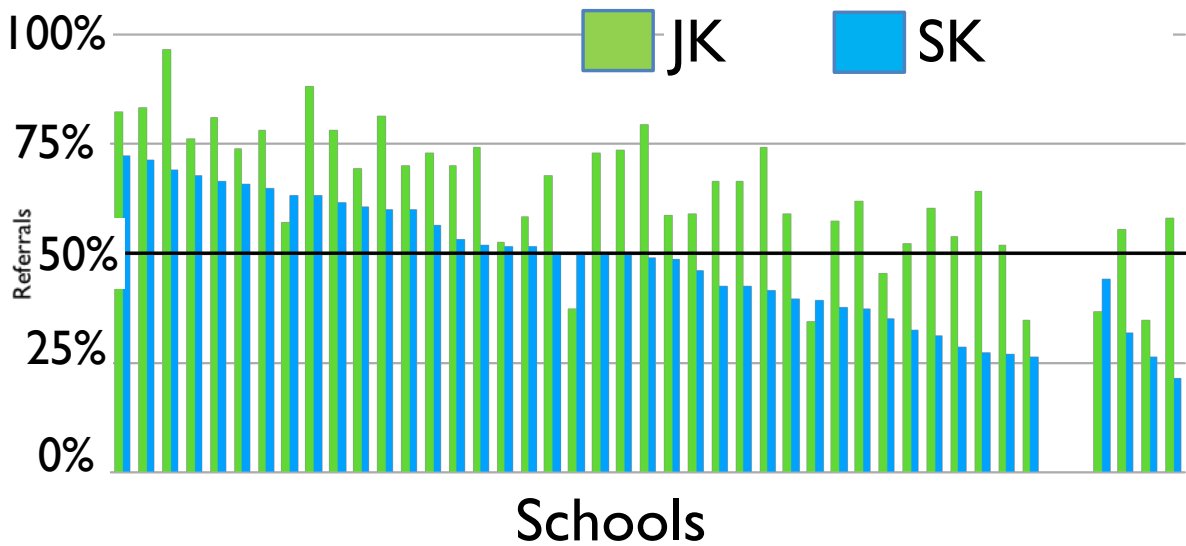


- 1 LAC SEUL FIRST NATIONS (872)
- 2 WELLESLEY (10,713)
- 3 GUELPH (121,688)
- 4 KIRKLAND LAKE (8,493)
- 5 TORONTO (6,054,191)
- 6 ERAMOSA (8,511)
- 7 ROCKWOOD (3,869)
- 8 CAMBRIDGE (126,748)

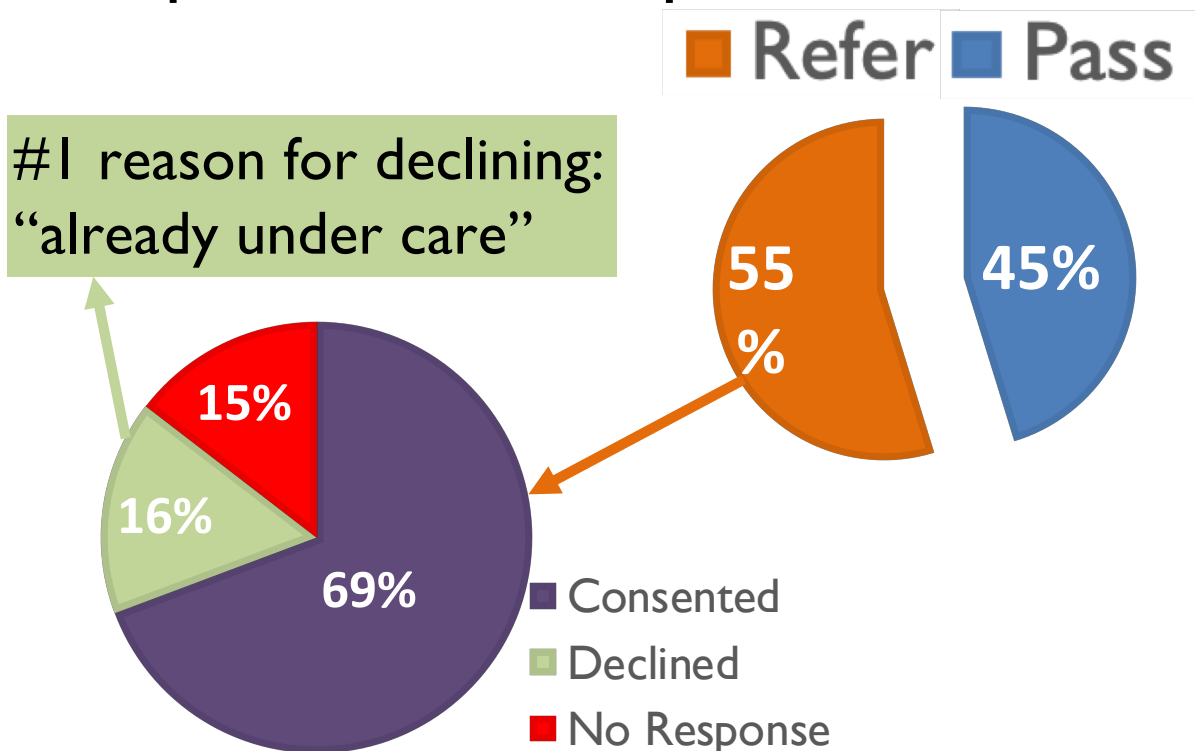
- 9 NORWICH (10,721)
- 10 OTTAWA (883,391)
- 11 WOODSTOCK (37,754)
- 12 SARNIA (89,555)
- 13 HAMILTON (519,950)
- 14 FERGUS (19,126)
- 15 KITCHENER (219,153)

(Population)

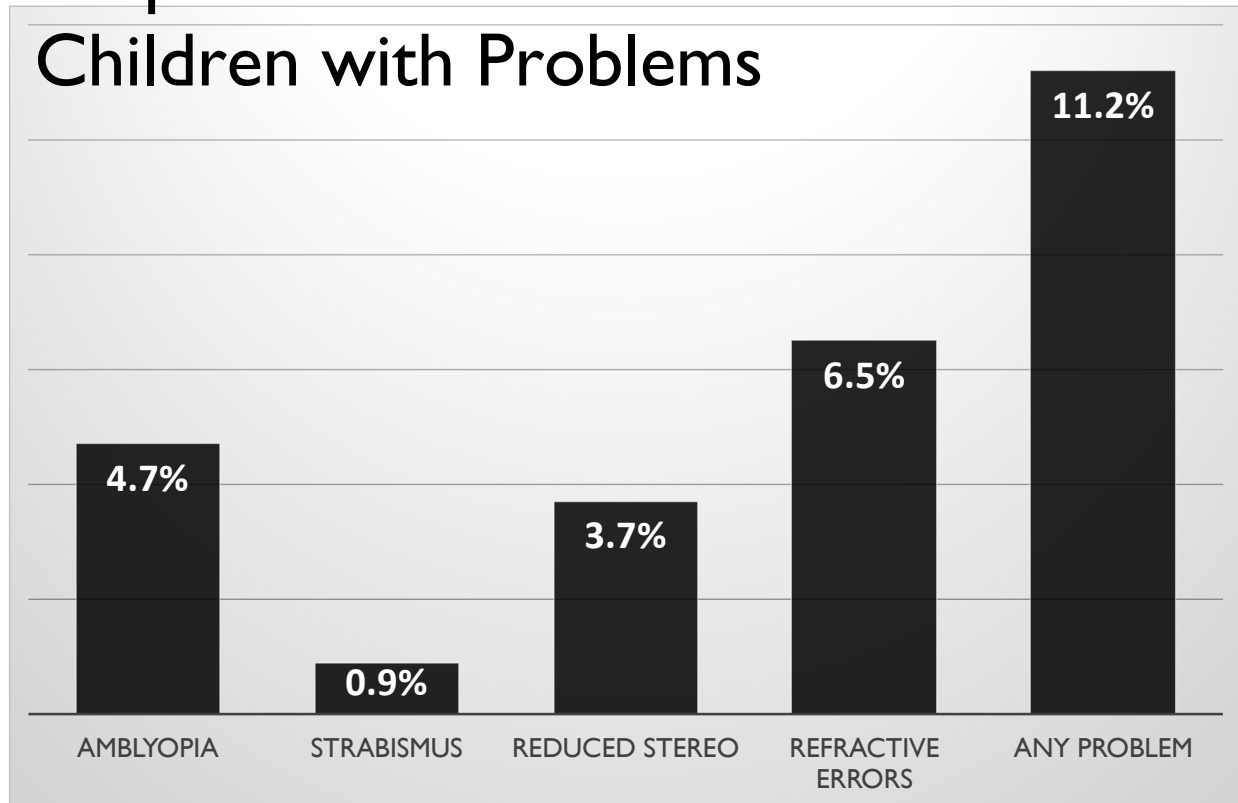
Variable Referral Rates (N = 2534)



Do parents follow up?



Proportion of 2534 Screened Children with Problems



Screening can make a difference.

Ministry tools

Crowded acuity (HOTV) (Monocular Testing)



Randot® Preschool Stereoacuity Test (Stereo Optical)



Autorefractor



Spot (Welch Allyn)

Plusoptix S12



90%



7%



2%

What did you think?

N = 322



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- Many Lions Clubs
- Medical students at the University of Ottawa (iScreen)