

**Canadian Association of
Optometrists: Submission to the
National Strategy for Early
Literacy**



*The Canadian
Association of
Optometrists*

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The Children's Vision Initiative

(Please note we would be happy to provide more details and formally request to make a presentation when the Public Consultations are held in March. We would prefer to make this presentation in Alberta, if possible.)

Role of the Issue in the Overall Challenge of Improving Literacy Outcomes

A significant pre-condition for literacy in young Canadian is that any vision related factors be identified and addressed by the time they enter school.

The importance of good vision to reading and learning has been the subject of considerable study. Numerous clinical and research studies have shown that good visual abilities are beneficial to learning to read and to read with understanding. Children with (20/20) eyesight can have visual problems which affect how their eyes focus, team together, or move along a line of print when reading. (A bibliography of the recent scientific and public policy research can be provided.)

These learning-related vision problems cause children to struggle unnecessarily, and this can result in their being mislabeled as learning disabled or having Attention Deficit Hyperactivity Disorder (ADHD).

Ten percent of all preschoolers have vision deficiencies and that percentage increases to 25% for children in Grades K-6. The incidence of vision problems is much higher in children at risk. 60% of children labeled as having learning problems have vision problems*. Aboriginal children have a significant higher incidence of refractive error. With an increased prevalence of diabetes within the Aboriginal population, the ocular effects for example, diabetic retinopathy, is a growing concern. Diabetic retinopathy has been identified as the leading cause of vision loss amongst Aboriginal people.

Despite this, only 14% of Canadian children under six years of age receive professional eye care. Undetected and untreated vision problems interfere in a child's ability to learn in school and to participate fully in sports and other childhood activities. Visual impairment in children is associated with developmental delays and the need for special education, vocational and social services, often beyond childhood and into adulthood.

While many parents adhere to strict schedules for pre-school vaccinations, they are often unaware of the correlation between optimum visual performance, health, and child development. Amblyopia** (lazy eye), high refractive error, strabismus (crossed or wall eyes) and ocular health problems are not obvious upon cursory examination by a parent and so usually go undetected until a full eye examination is performed by either an optometrist or ophthalmologist. Only 14%

*Independent US studies of Juvenile Delinquents revealed that, in one study, 58% had undetected vision problems and in the other, 70%.

** Amblyopia is the 4th most common disability in children and it is responsible for loss of vision in more people under 45 than all other ocular diseases and trauma combined. Early identification is key to successfully treating Amblyopia. Half of all children are diagnosed with Amblyopia after therapy is no longer as effective.

of children in Canada under the age of six have a comprehensive eye examination. It is thought that half of all children will not have an eye examination before completing high school.

Young children usually do not realize that they may see differently than everyone else. They will not, or are unable to express to their parents that they are experiencing visual difficulties. It is often not until a child's teacher suspects there might be a vision problem that there will be a referral for an eye examination. This may be several years into a child's school career and only after repeated failures and unnecessary learning difficulties and frustrations for the child.

At birth a child has basic eyesight. Children learn how to use their visual system and their brain must learn to correctly interpret the signals it receives from the eyes. There are critical developmental milestones within a child's visual development. Eye health, visual acuity, eye movement control, focusing ability and eye coordination all impact on whether the brain is receiving accurate information from the eyes

Decreased binocular vision and depth perception can cause problems with gross and fine motor development. Common visual problems such as blurring, visual discomfort, headaches and fatigue with close work discourage children from reading, or participating in games requiring concentration. Uncorrected hyperopia is associated with deficits in visual perceptual skills, reading readiness and reading achievement.

The effects of uncorrected vision problems are often low self-esteem, physical awkwardness, social alienation or behavioral problems. This finding is reinforced in the U.S. National Health document "Healthy People 2010" which states: *"vision impairment in children is associated with developmental delays and the need for special educational, vocational and social services."*

Federal and provincial ministers have identified the importance of ensuring children enter school ready to learn and have been supporting a number of worthwhile programs. However, the explicit connection between how well a child sees and how well a child learns has not been fully recognized, addressed or prioritized in most Canadian provinces. It is clearly an unmet need that has fallen between the federal and provincial public policy stools.

Statement and Description of the Specific Actions Proposed

For several years there has been a progressive movement to legislate mandatory eye examinations for children entering schools in a number of US states. Groups such as the American Public Health Association formally recommend comprehensive eye examinations for young children. Several years ago the CAO took the lead in examining the US experience and talking to leading US experts about the results. At the request of the Optometric Leaders Forum (which represents the profession, regulators and optometric educators across Canada) the Canadian Association of Optometrists, along with provincial optometric associations has made children's vision a major priority. A working committee including all provinces was established. We have supported professional educational initiatives and commissioned and distribute clinical practice recommendations to assist optometrists when examining children'. There have been major initiatives at both the national and provincial level to build alliances with medicine, public health and the educational community. We have supported a series of initiatives, most notably, in British Columbia, Manitoba, Saskatchewan and Alberta.

The support from our profession has been steadily growing over time. There is wide spread recognition that because the profession of optometry has members in both large and small communities throughout Canada we are in a unique position (and have an obligation) to help

communities address these issues. We have the manpower to supply quality service to the right population in a timely and effective manner.

For that reason, The Children's Vision Initiative (CVI) is a major priority that the Canadian Association of Optometrists. The focus of the CVI is to ensure that Canadian children have a comprehensive eye examination before or minimally by the time they enter school in order to allow any vision problems to be addressed. It is the mandate of the CVI that uncorrected and/or undetected vision problems never be a barrier to a child's readiness for learning. Since the CVI began, we have extensively reviewed the experiences of groups outside of Canada, initiated several Canadian pilot projects and supported large public communications programs aimed at parents, day cares, hospitals and public health authorities. In the process, we have worked with a variety of governments and community groups.

Based on these experiences, we have developed a community outreach strategy and public communications program that is a cost-effective and we believe the optimal way to ensure that the largest number of children receive an eye examination before they enter grade one. The program has been named *Eye See...Eye Learn*. We tested this model with a pilot project in 2003/2004 within a large Alberta school district. Under the local leadership of the Alberta Association of Optometrists and with the full support of the Alberta Ministry of Children's Services, local teachers, public health authorities, trustees, parents and the local optometric and ophthalmologic community, this pilot was conducted. A recognized child eye care specialist from the University of Waterloo collated and analyzed the results and with AAO prepared the final report.

All participants acknowledged the results as successful and significant. Forty five per cent (compared to 14%) of the eligible children or 453 children out of 1000 eligible children were examined. 12% of the children examined had vision or eye health problems that would have affected learning either moderately or significantly. A higher percentage of vision problems were found in specific groups of at-risk children.

On the basis of the success of this pilot, the Alberta Government has recommended that all school boards in the province implement the *Eye See...Eye Learn* program. Starting in the 2005 school year a coordinator for northern Alberta was placed to facilitate the process. Over the next three years, this program expanded to include another coordinator who was employed to address the needs of the school districts in the southern part of the province and was quickly embraced by all the school districts within Alberta.

Based on the experience of Alberta's *Eye See...Eye Learn* Program and the other Canadian and US programs over the last several years, the CAO has created a 'best practice' template that we hope will be adopted by other provincial governments.

The CAO has examined and tested other delivery models. While the CAO *Frequency Guidelines for Infant and Early Childhood Eye Examinations* recommends a child's first eye exam be conducted before their first birthday, the delivery model has proven to be more problematic. A comprehensive eye examination at this younger age is clinically desirable; however, our experience suggests it may be costly and logistically complex to systematically reach children who are in a wide variety of care situations. It has also been difficult to assess and accurately measure the impact of public communications aimed at parents with

infant and/or pre-school children. The pilots we have examined that targeted parents with newborns or toddlers have not had a strong demonstrable impact.

Therefore, we have concluded and focused our efforts on trying to reach children as they enter school. We believe our program is low cost/high impact:

- The school system is a large funnel that captures almost all children.
- The School Board is already sending material to parents informing them what they can do to help prepare their children for school. Adding our material to these communications and asking the parents to return the *eye exam verification form* is a relatively low cost and simple way to ensure that the parents see the message and act on it. Our program reinforces those initial messages over the course of the first school year to improve 'take up'.
- Parents are most receptive to messages about helping their child learn when the child is about to enter the school system.
- School Boards and kindergarten schoolteachers are a definable and manageable target. They are also tremendously knowledgeable and enthusiastic resources to carry out key parts of the program and promote our related teaching materials. Educators, as a group, 'buy-in' because they understand they are one of the direct beneficiaries. Anything that removes obstacles from children's learning or, minimally identifies the special need as early as possible, leads to less strain on the classroom and the school system. It is their ready participation that makes this program work.
- We can build results measurement into the program by regular benchmarking that would allow us to identify lagging schools and groups of students and improve 'take-up' over time.
- Since school systems are already targeting the most at-risk children and the needs of aboriginal children, we have a ready-made vehicle to be a part of that support system and develop special programs to meet these children's needs (the objective of the current funding request).

Our goal is to see this program adopted by School Boards across Canada. We would like to have an opportunity to educate the members of the National Strategy for Early Literacy on how the program works.

Discussion of the Responsibilities and Mechanisms by which such Actions would take place / Discussion of the Resources required for such actions to be implemented / Discussion of how such activities and impacts should be monitored and evaluated

The CAO would be pleased to provide a detailed breakdown of its 'best practices' template which include how to roll out the *Eye See...Eye Learn* program, communication materials, templates to be used by School Boards and Teachers.

While the work is done by volunteers, we believe it helpful to have one or two paid coordinators per province who work with the local school boards to set up the programs.

The principal issue is public awareness. Access is generally not an issue. There is broad availability of optometrists/eye doctors across Canada. Ophthalmologists and/or optometrists can be found in over 3000 communities in Canada, so most children and their parent have access to professional help.

Cost is not an issue because provincial governments cover the cost of the examinations in most provinces.

Estimates of the Expected Impact of these Actions

Based on our Alberta experience we believe that the number of children who receive an eye examination can be moved from the current national average (14-16%) to approximately 45%. Of those examined in our pilot, approximately 12% were diagnosed and treated for vision problems that presented mild to acute learning issues. There were also numerous cases of amblyopia diagnosed. Amblyopia is the leading cause of vision loss in the under 45 year age demographic. The condition is treatable if detected and treated appropriately early but usually leads to vision loss if undetected before the age of 7 or 8.

Templates and materials of the Children's Vision Initiative - *Eye See...Eye Learn* can be provided on request and would be outlined in the presentation.

As part of the *Eye See...Eye Learn* pilot project, the CAO developed measurement and performance criteria that were independently evaluated. We believe these could be provided to a broader program. Additional measurement criteria would have to be developed for at-risk populations.

References to Sources Cited in and Supporting the Contents of the Submission

Following is a bibliography on recent research in the area of vision health and literacy and learning issues. Also included is a report on the *Eye See...Eye Learn* pilot project in Alberta as a separate attachment. Additional material can be provided.

Bibliography

Fishman Hellerstein, Lynn, O.D. "Optometric guidelines for school consulting" *Journal of Optometric Vision Development*. Volume 32/Summer 2001: 56-75.

Harris, Paul. "Learning related visual problems in Baltimore City: A long-term program." *Journal of Optometric Vision Development*. Volume 33/Summer 2002: 75-115.

Johnson, Roger A., PhD., Zaba, Joel N., O.D. "The visual screening of adjudicated adolescents." *Journal of Behavioral Optometry*. Vol 10/1999/Number 1: 13-16.

Johnson, Roger A., PhD., et al. "The vision screening of academically and behaviorally at-risk pupils." *Journal of Behavioral Optometry*. Vol 7/1996/Number 2: 39-42.

Jones, David, et al. "Elementary school teachers' perspectives of factors associated with reading disability." *Journal of Behavioral Optometry*. Vol 16/2005/Number 1: 11-16.

Kemper, Alex R, M.D., M.P.H., M.S., Sarah J Clark, M.P.H. "Preschool vision screening in pediatric practices." *Clinical Pediatrics*. April 2006: 263-266.

Krumholtz, Ira, O.D. "Educating the educators: increasing grade-school teachers' ability to detect vision problems." *Optometry*. Volume 75/number 7/July 2004: 445-451.

Kvarnström, Gun, Orthoptist, PhD., et al. "Preventable vision loss in children: A public health concern?" *American Orthoptic Journal*. Vol 56, 2006: 3-6.

Maples, W.C., O.D., M.S. "A comparison of visual abilities, race and socio-economic factors as predictors of academic achievement." *Journal of Behavioral Optometry*. Vol 12/2001/Number 3: 60-65.

Ruben, James B., M.D. "Reimbursements and resources for pediatric vision screening." *American Orthoptic Journal*. Vol 56, 2006: 54-61.

Vaughan, Wanda, O.D., M.S., et al. "The association between vision quality of life and academics as measured by the College of Optometrists in Vision Development Quality of life questionnaire." *Optometry*. 2006: 77, 116-123.

Zaba, Joel N., M.A., O.D. "Social, emotional and educational consequences of undetected children's vision problems." *Journal of Behavioral Optometry*. Vol 12/2001/Number 3: 66-70.

Zaba, Joel N., M.A., O.D., et al. "Vision examinations for all children entering public school – the new Kentucky law." *Optometry*. Volume 74/number 3/March 2003: 149-158.

Other Resources

A summary of research and clinical studies on vision and learning. College of Optometrists in Vision Development.

"Educators share their experiences of vision's role in learning." 2 teachers interviewed by Bobby Mansfield.

Individual Supportive Education Reform Agenda for New Jersey Reading. Published by the New Jersey Commission on Business Efficiency of the Public Schools on the topic of Special Education Reform. Spring 2006

Vision Council of America. "Making the Grade? The state and federal governments' efforts to prevent vision problems in children."

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