



GRANT #H17MC25739; Project Title: Healthy Eyes Healthy Futures Massachusetts; **Final Report**
Organization Name: NATIONAL SOCIETY TO PREVENT BLINDNESS; dba: Prevent Blindness; 211 W. Wacker Dr.; Suite 1700 Chicago, IL 60606; preventblindness.org
Primary Contact Information: Kira Baldonado, Vice President of Public Health and Policy; 312-363-6038; kbaldonado@preventblindness.org

1. PROJECT IDENTIFICATION

Project Title: Healthy Eyes Healthy Futures Massachusetts

Project Number: H17MC25739

Project Director: Kira Baldonado, Vice President of Public Health and Policy

Grantee Organization: NATIONAL SOCIETY TO PREVENT BLINDNESS; dba: Prevent Blindness

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Project Period: 07/01/2013 THROUGH 02/28/2018

Total Amount of Grant Awarded: \$47,127 annually. Cumulative grant support during the project period: \$235,635



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ANNOTATION: The goal of the Healthy Eyes Healthy Futures (HEHF) Massachusetts project is to improve the visual health of children via collaborative medical home and community outreach initiatives. Communities engaged in this initiative are Boston and Springfield, MA. The project objectives include a more comprehensive evaluation of children's vision through improvements to pediatric developmental assessment tools; enhanced influence of the medical home to promote healthy vision for school readiness; and introduction of eye health education programs and resources for vision care to early education staff and school nurses to promote awareness and link vision services to high risk children and hard to reach families.

KEY WORDS: Children, vision, screening, professional education, training, resources, parent engagement, collaboration, early intervention, primary health care, nurses, minority, vulnerable, developmentally delayed, policies, partnership, social media, grant funding



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ABSTRACT OF FINAL REPORT- Healthy Eyes Healthy Futures MA Project

PURPOSE OF PROJECT AND RELATIONSHIP TO SSA TITLE V MATERNAL AND CHILD HEALTH (MCH) PROGRAMS:

The purpose of the **Healthy Eyes Healthy Futures (HEHF) Massachusetts** project was to improve the visual health of children via collaborative medical home and community outreach initiatives specifically addressing the *preventive health care* priority of the Healthy Tomorrows grant program. Communities engaged in this initiative were Boston and Springfield, MA. The project objectives included a more comprehensive evaluation of children's vision through improvements to pediatric developmental assessment tools; enhanced influence of the medical home to promote healthy vision for school readiness; and introduction of eye health education programs and resources for vision care to early education staff and school nurses to promote awareness and link vision services to high risk children and hard to reach families. The improvement activities in this grant project for children's vision and eye health in the pediatric setting supports Title V National Performance Measure 11 (Medical Home) and National Outcome Measure 13 (School Readiness.)

GOALS, OBJECTIVES, AND METHODOLOGY: The goal of the **Healthy Eyes Healthy Futures Massachusetts** project was to improve the vision and eye health of children in Boston and Springfield, Massachusetts and included the following three objectives:

- (1) Utilize improved developmental assessment tools to support more accurate evaluation of young children's vision
- (2) Enhance medical home initiatives that promote school readiness by introducing vision messaging and eye health education to existing programs
- (3) Provide eye health education and links to vision resources to populations of high risk children and hard to reach families

EVALUATION: Prevent Blindness, Children's Vision Massachusetts, and collaborative partners used a mixed

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qualitative/quantitative evaluation model to assess progress toward the project's goal. Evaluation components were planned collaboratively with the key project partners to ensure ease of implementation. As the activities planned for each objective were implemented, steps were taken to ensure a solid plan for the activity was formed, and tested in the focus communities and evaluated for needed revisions before a wider dissemination was implemented.

RESULTS/OUTCOMES: (1) Utilize improved developmental assessment tools to support evaluation of

children's vision: *This screening approach for children ages Birth to 3 years provides an evidence-based tool*

that can be easily adopted by non-clinical settings (home visitation programs, Early Head Start, early

intervention) where vision assessment is required to be conducted by non-medical personnel. (2) Enhance

medical home initiatives that promote school readiness, provide eye health education, and links to vision

resources to high risk children and hard to reach families: *This effort demonstrated that a significant number*

of children can be reached through the successful integration of vision health messaging and resources into

existing public health program efforts. (3) Provide eye health education and links to vision resources to

populations of high risk children and hard to reach families: *These efforts resulted in improved vision in*

hundreds of thousands of children in MA as well as significant policy and structural changes which directly set

the course for the sustainability of the work conducted with this project.

PUBLICATIONS/PRODUCTS/DISSEMINATION: This project conducted numerous conference presentations, developed resources, published articles, conducted state-level meetings, provided professional development trainings, and created traditional and social media resources as a part of this work.

FUTURE PLANS/SUSTAINABILITY: The Healthy Eyes Healthy Futures project resulted in several structural changes at multiple levels in the system for children's vision which will result in ongoing efforts to improve vision and eye health outcomes for children in MA.

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Final Report Narrative

PURPOSE OF PROJECT AND RELATIONSHIP TO SSA TITLE V MATERNAL AND CHILD HEALTH (MCH) PROGRAMS:

The purpose of the ***Healthy Eyes Healthy Futures (HEHF) Massachusetts*** project was to improve the visual health of children via collaborative medical home and community outreach initiatives specifically addressing the *preventive health care* priority of the Healthy Tomorrows grant program. Communities engaged in this initiative were Boston and Springfield, MA. The project objectives included a more comprehensive evaluation of children's vision through improvements to pediatric developmental assessment tools; enhanced influence of the medical home to promote healthy vision for school readiness; and introduction of eye health education programs and resources for vision care to early education staff and school nurses to promote awareness and link vision services to high risk children and hard to reach families.

Vision health in children younger than age 6 is a national priority (Healthy People 2020 National Objectives.)

Early vision screening is necessary to detect and initiate treatment of vision problems and eye diseases, including amblyopia, strabismus, and high refractive errors. Treatment for these conditions are highly successful, relatively inexpensive and readily available- though commonly an overlooked procedure (Office of the Inspector General, *Nov 2014 Annual Report*.) While there has been considerable research carried out on preschool vision screening in the last 10 years, there has been little shift in the documented numbers of children receiving appropriate vision assessments in the pediatric environment. It is imperative that the early identification and treatment of children's vision problems be elevated in importance in medical home and community settings.

The importance of healthy vision for children is supported by the American Academy of Family Physicians, the American Academy of Ophthalmology, the American Academy of Pediatrics, Bright Futures for Infants, Children and Adolescents, the American Association of Certified Orthoptists, the American Academy of Optometry, and



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the American Association for Pediatric Ophthalmology and Strabismus. The use of proper vision screening and preventive eye health education by pediatricians and integration of vision health interventions in state Title V programs was important in advancing our objective of increasing and improving the visual health of children in the targeted areas. The improvement activities in this grant project for children’s vision and eye health in the pediatric setting supports Title V National Performance Measure 11 (Medical Home) and National Outcome Measure 13 (School Readiness.)

GOALS, OBJECTIVES, AND METHODOLOGY: The goal of the **Healthy Eyes Healthy Futures Massachusetts** project was to improve the vision and eye health of children in Boston and Springfield, Massachusetts and included the following three objectives:

1. Utilize improved developmental assessment tools to support more accurate evaluation of young children’s vision
2. Enhance medical home initiatives that promote school readiness by introducing vision messaging and eye health education to existing programs
3. Provide eye health education and links to vision resources to populations of high risk children and hard to reach families

The following table highlights each of the project’s objectives, related activities and results through the end of the program period which concluded in February 2018:

Objective 1. Utilize improved developmental assessment tools to support more accurate evaluation of children’s vision.

Activity Description	Result
Activity A. Establish and manage a committee (Question Work Group) comprised of pediatricians, eye care providers, and developmental, early education, and early	Membership of 30 individuals, representing pediatricians, author of the <i>Ages and Stages</i> developmental assessment tool, eye care providers, developmental, early

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intervention specialists.	education, and early intervention specialists were recruited and actively serve on the Developmental Questionnaire Workgroup (QWG). <i>List of QWG members included in appendices.</i>
Activity B. Carry out a thorough review of previous work, both within and outside the United States, on the relationship between assessment of visual development and the presence of and detection of significant vision disorders in young children.	Completed 2016.
Activity C. Identify questions and procedures appropriate for use in standard developmental assessment tools and evaluate guidelines for interpretation of responses on current questions that may relate to visual development.	Completed 2017.
Activity D. Introduce these questions in target areas by including them in assessment tools currently in use during well child visits, home visits and school evaluations.	Completed in 2017.
Activity E. Provide guidance on use of questions and appropriate actions based on outcomes.	Completed in 2017.
Activity F. Track use of questions, evaluate outcomes, refine as needed. Disseminate results.	Completed in 2017 and 2018.

Objective 2. Enhance medical home initiatives that promote school readiness by introducing vision messaging and eye health education to existing programs.

Activity Description	Result
Activity A. CVMA will partner with <i>Reach Out and Read</i> to develop messaging related to acquisition of visual skills, and the importance of assessing vision and correcting vision conditions to prepare young children for reading/school readiness.	New ROR organizational practice resulted because of this partnership: <ol style="list-style-type: none"> 1. Reach Out and Read incorporated vision messages during staff provider visits at 300 primary care office locations in MA. The messages were presented to families 2. Reach Out and Read distributes vision related children’s books to families

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	during visits with primary care provider offices as budget is available 3. CVMA provided vision-related posters for distribution to pediatric provider sites in 2017
Activity B. Pilot message and resources in target locations with evaluation plan in place.	Completed in 2016.
Activity C. Revise messages as needed, make available in multiple languages and address cultural needs.	Completed in 2017.
Activity D. Disseminate to target communities in MA and other Reach Out and Read providers.	Completed in 2017 and 2018.

Objective 3. Provide eye health education and links to vision resources to high risk children and hard to reach families.

Activity Description	Result
Activity A. Prevent Blindness and CVMA will work with the MA Department of Early Education and Care (EEC) to develop educational messaging and identify resources that can be used by home visiting program staff, parent education programming staff, and parent-child playgroup discussion leaders, to create a network of early education professionals prepared to support healthy eye development in high-risk young children.	<p>The HEHF MA project worked with MA Department of Early Education and Care to integrate children’s vision educational messaging and resources that are used by home visiting program staff, parent education programming staff, and parent-child playgroup discussion leaders, creating a network of early education professionals prepared to support healthy eye development in young children who are at high-risk for vision problems. Since the start of this relationship, CVMA has provided multiple professional education in-services and provided eye health resources to more than 100 EEC grantees in community sites throughout Massachusetts. This partnership has resulted in ongoing resource support from CVMA to EEC grantees and annual professional education events. A summary of EEC grantee use of the resources and information from the professional education they received is included in the appendices of this report.</p> <p>The following resources were provided project partner organizations:</p> <ul style="list-style-type: none"> - A ‘geomap’ has been completed with purpose of (1) identifying optometrists and ophthalmologists in Massachusetts who provide

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	<p>care for young children (<5 years) with MassHealth insurance and (2) using geomapping techniques related to workforce distribution and capacity to evaluate the impact on access to eye exams and vision health outcomes for high-risk populations.</p> <ul style="list-style-type: none"> - Parent advocates participated as presenters at the CVMA 2016 Summit - Bookmark/fact sheet with facts about children’s vision - CVMA Children’s Vision Resource Guide- includes information about common children’s vision problems, insurance information, frequently asked questions, and eye care providers listed by community - Public Services Announcement: <i>Ask About Vision</i> www.youtube.com/watch?v=u7zOo5DSUcM www.youtube.com/watch?v=b3QUzsSsols - Monthly Newsletters: Children’s Vision Massachusetts; Target Audience: Families, Professionals, Policymakers, Students # of subscribers: 754 www.childrevisionsmassachusetts.org
<p>Activity B. Prevent Blindness and CVMA will serve as a resource for MA Department of Public Health School Health Services to support healthy eye development in high-risk children as a part of school based interventions including parent education programs and communications regarding individual students who are in need of vision services.</p>	<p>School Health Services MA at the Department of Public Health partnered with Children’s Vision MA to apply for and receive private foundation funding to purchase approved vision screening devices to then donate to school districts for use by school nurses in schools/districts with high enrollment of preschool age children. The Richard and Susan Smith Family Foundation awarded this partnership \$46,858 in 2018 for the purchase of six vision screening instruments to be utilized by School Health Services, Massachusetts Department of Public Health, who distributed the devices to Regional Nurse Consultants for use by school nurses in public school preschools and kindergartens in Boston, Brockton, Chelsea, Fall River, Lawrence, Lowell, Lynn, New Bedford and other nearby communities in Eastern Massachusetts. This will result in minimum impact of completed screenings of 18,250 preschool and kindergarten children per year.</p>

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	<p>Data reporting by school nurses is required to participate.</p> <p>Prevent Blindness has been invited to submit a Letter of Intent to the Health Care Foundation of Central Massachusetts and replicate this innovative partnership approach by the purchase of vision screeners to be donated to School Health Services, Massachusetts Department of Public Health, who will then distribute to Regional Nurse Consultants for use by school nurses in public school preschools and kindergartens in Worcester, Fitchburg and other cities and towns in Central MA. This would result in an additional impact of completed screenings of 12,456 preschool and kindergarten children per year.</p>
<p>Activity C. Test integration of vision information with existing programs and materials with evaluation plan in place. Developmental assessment vision questions will be introduced to early educators to be referenced during home visits and parent programs.</p>	<p>Completed 2017.</p>
<p>Activity D. Include new children’s vision module in existing staff education and professional development programs.</p>	<p>CVMA provides on-going professional development to the EEC staff through a presentation at the Annual MA Early Intervention Consortium Conference (4 consecutive years, 2015-2018). Additionally- the Prevent Blindness Northeast Region office staffs a Children’s Vision MA exhibit table for both days of this 2 day conference. Attendees access resources, information about the role of vision in child development and EI programming, and gain professional contacts. Finally, CVMA provided a webinar on children’s vision for 60 participants in 2017.</p>
<p>Activity E. Revise messaging and training programs as needed; align materials with cultural and literacy needs of target populations.</p>	<p>CVMA maintains a strong relationship with the MA EEC Program- including representation of the EEC staff on the vision coalition.</p>
<p>Activity F. Disseminate in years 2 through 5 to target communities in MA.</p>	<p>Springfield, MA, a community of 150,000 in western Massachusetts, is a focus of the Outreach to Families through MA Dept. of Early Education</p>

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	<p>and Care Network project. CVMA, through its partnership with EEC, developed a strong partnership with the LiveWell Springfield-KIDS coalition. After presentations from CVMA coalition members, the LiveWell Springfield-KIDS coalition determined that children’s vision was to be its priority focus. CVMA worked with the leadership of the LiveWell Springfield- Kids Coalition to outline a formal strategic plan as it relates to children’s vision. The result was the EyeSEE (Eye <u>S</u>creening, <u>E</u>ducation, <u>E</u>xams) initiative- a program designed to increase parent understanding of children’s vision, vision screening rates, and follow up to eye care. It led to improved collaboration among community partners for children’s vision, including LiveWell Springfield—KIDS coalition, Early Head Start Program, Lion Clubs, and community pediatricians</p> <p>EyeSEE was featured in Children's Vision MA Coalition (CVMA) presentation at the July 2016 “Focus on Eye Health National Summit 2016” in Washington DC to highlight the need for early vision screening and comprehensive vision services to ensure all preschoolers enter Kindergarten with their best possible vision.</p> <p>Leadership of the EyeSEE Program participated with CVMA at the Children’s Vision Care in Massachusetts legislative briefing hosted by Representative Christine P. Barber at the State House in 2016 and 2017.</p>
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The methods used in the Healthy Eyes for Healthy Futures Massachusetts project embraced the power of collaboration among diverse stakeholders to overcome barriers to healthy vision in young children. Parents, communities, professionals, and state and national organizations all played a role in this work which resulted in improved awareness and professional development, new state-level staff positions and commissions for children’s vision, policy revisions, improved data collection, scientific articles, resources, and support of cultural needs of target populations. Staff and volunteers from the CVMA Advisory Group provided the vision

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and eye health expertise, but it was the willingness and ingenuity of partners that allowed the vision

information to be integrated into existing systems of care leading to

improved vision health and equitable access to eye care. The Healthy

Eyes Healthy Futures Massachusetts project demonstrates that, for a

relatively small investment of around \$700,000 over a 5 year period,

huge changes can be made that impact the quality of life for thousands

of young children. This will translate to savings in reduced expenditures on early intervention, care for

children with permanent vision loss, and increased productivity and employability for the children in the future

thanks to improved vision.

EVALUATION: Prevent Blindness, Children's Vision Massachusetts, and collaborative partners used a mixed

qualitative/quantitative evaluation model to assess progress toward the project's goal. Evaluation components

were planned collaboratively with the key project partners to ensure ease of implementation. As the activities

planned for each objective were implemented, steps were taken to ensure a solid plan for the activity was

formed, and tested in the focus communities and evaluated for needed revisions before a wider dissemination

was implemented. With this in mind, Prevent Blindness and Children's Vision Massachusetts developed the

following evaluation plan that measured the impact of the HEHF Massachusetts project.

Healthy Eyes Healthy Futures Massachusetts Project Evaluation Plan



Evaluation Question	Indicator	Source(s)
Objective 1: Utilize improved developmental assessment tools to support more accurate evaluation of children's vision		
<p>Have valid, culturally competent vision questions been identified for inclusion in developmental assessments?</p> <p><small>GRANT #H110076 Healthy Eyes Healthy Future implemented by Prevent Blindness, dha; Prevent Blindness; 211 W. Wacker Dr., Suite 1700 Chicago, IL 60606; preventblindness.org Organization Name: NATIONAL SOCIETY TO PREVENT BLINDNESS Primary Contact Information: Ira Baldonado, Vice President of Public Health and Policy, 312-983-6038; kbaldonado@nspreventblindness.org</small></p>	<p>Questions approved for implementation by key stakeholders</p> <p>Questions reviewed for literacy level and cultural competency</p>	<p>Written approval given by stakeholders</p> <p>Focus group including parents of target communities</p>
<p>Are providers competent in the use of the questions?</p>	<p>Number of providers completing training/orientation</p> <p>Number of sites where questions are being used</p> <p>Positive satisfaction rating for new questions</p>	<p>Training completion records</p> <p>Signed provider agreements</p>
<p>Are appropriate referrals for eye care being made in the target population?</p>	<p>Children that require referral also found to have a vision problem</p>	<p>Comparison of sample referred population to gold standard eye exam</p>
Objective 2: Enhance medical home initiatives that promote school readiness by introducing vision messaging to existing program		
<p>Have new messages been written for inclusion in existing program materials?</p>	<p>Messages approved for use by key stakeholders</p>	<p>Written approval given by stakeholders</p>
<p>Are the messages culturally appropriate and easy to understand?</p>	<p>Positive opinions obtained from target population</p> <p>Messaging reviewed for literacy level and cultural competency</p>	<p>Focus group including parents of target communities</p>
<p>Are providers willing to implement the new messages?</p>	<p>Number of sites where questions are being used</p> <p>Positive satisfaction rating for new questions</p>	<p>Signed provider agreements</p> <p>Provider satisfaction and opinion phone/online survey</p>
<p>Is the target population more aware of vision problems and their prevention in young children?</p>	<p>Knowledge gained</p>	<p>Pre/post parent survey</p>
Objective 3: Provide eye health education and links to vision resources to high risk children and hard to reach families		
<p>Have new messages/resources been developed for inclusion in existing program materials?</p>	<p>Number who begin treatment among those known to have been diagnosed</p>	<p>Follow-up calls to those referred for examination</p>
<p>Are the messages culturally appropriate and easy to understand?</p>	<p>Positive opinions obtained from target population</p> <p>Messaging reviewed for literacy level and cultural competency</p>	<p>Focus group including parents of target communities</p>
<p>Are volunteer and professional providers competent in the use of the materials?</p>	<p>Number of providers completing training/orientation</p> <p>Number of sites where questions are being used</p> <p>Positive satisfaction rating for new questions</p>	<p>Training completion records</p> <p>Signed provider agreements</p>
<p>Is the target population more aware of vision problems and their prevention in young children?</p>	<p>Knowledge gained</p> <p>Services received</p>	<p>Pre/post parent survey</p> <p>Parent/provider service report</p>

RESULTS/OUTCOMES:

1. **Utilize improved developmental assessment tools to support evaluation of children's vision.**

This study compared a novel method of vision screening (behavioral vision screening) and an instrument based vision screener (Spot vision screener, Welch Allyn) to gold standard eye exam in children from birth to three years of age in Boston and Springfield. The novel method of vision screening involved posing questions about the child's expected visual behavior in the form of a survey. (Copy of the survey is included in the appendices.) Ex: A 6 month old is expected to make eye contact with the primary care giver. Surveys were developed by the authors of age groups 0-6, 6-12 etc., till 31-36 months of age. The scores of the survey and the results of the Spot vision screener were compared to the gold standard eye exam provided by licensed pediatric optometrists masked to both results. The research team completed study activity in Springfield, MA and Boston, MA, and the project- *Efficacy Of A Novel Vision Screening Tool In Identifying Vision Disorders In Children From Birth To Three Years of Age* (Poster included in the appendices)- was accepted for presentation at three national conferences. *A total of 225 children from 0-36 months were recruited from early education and care centers serving vulnerable and minority populations (ethnic breakdown not available).* The sensitivity and specificity for the survey with cut off a survey score of 7 and 8 were 69.2% and 65.8 and 43.6% and 83.2% respectively. The Area Under the Curve (AUC) for the survey was 0.703 (good). The sensitivity of the SPOT Vision Screener was 68.29% (95% CI 62.49 – 74.10%), the specificity was 86.89% (95% CI 82.68 – 91.10%), the positive predictive value was 50.91% (95% CI 47.73 – 54.09%), and the negative predictive value was 93.23% (95% CI 91.30 – 95.15%). Overall, results of this pilot study shows that the survey was a good predictor of vision problems in children under three years of age. A large-scale study with a larger sample size is warranted to evaluate the validity of the survey as a viable screening tool in this

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population. Funding opportunities for this large-scale study are being explored. *This screening approach for children ages Birth to 3 years provides an evidence-based tool that can be easily adopted by non-clinical settings (home visitation programs, Early Head Start, early intervention) where vision assessment is required to be conducted by non-medical personnel.*

2. Enhance medical home initiatives that promote school readiness, provide eye health education, and links to vision resources to high risk children and hard to reach families.

Prevent Blindness and CVMA partnered with Reach Out and Read Partnership of MA to promote the integration of vision and eye health information into well-child visits for high-risk children. Through this partnership, we were able to successfully develop, test, and integrate talking points that can be used to educate families during the well-child visit, provide vision-themed books, and posters for distribution to the families. Because of this effort, 'vision talking points' are now included at all visits to pediatric practices reaching 293 pediatric practice sites and 209,374 children in 2017.

Unfortunately, funding for the Massachusetts Reach Out and Read was entirely eliminated for FY 2017, with the result that all regional program coordinators were laid off and the Massachusetts Programs Director's hours were substantially reduced. This funding shortfall continued into the third quarter of FY2018 until some private funding allowed ROR to bring back a limited number of program coordinators for minimal hours. *This effort demonstrated that a significant number of children can be reached through the successful integration of vision health messaging and resources into existing program efforts such as ROR. This approach can be easily duplicated but is funding dependent.*

3. Provide eye health education and links to vision resources to populations of high risk children and hard to reach families

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The Prevent Blindness/CVMA approach to provide eye health education and vision resources to populations of high risk children and hard to reach families was grounded in developing and maintaining relationships with organizations that were already serving these critical populations of children- the MA Department of Early Education and Care (EEC), the MA Department of Public Health Early Intervention Program, and the MA Department of Public Health- School Health Services. The approach with the EEC included professional development for the 100 grantees charged with implementing the program services with hard-to-reach families via conference presentations and webinars, provision of eye health educational resources in multiple languages, and dissemination of the education and resources throughout MA. Senior staff of the EEC Program were engaged in the planning and presentation at two children's vision summits- one held in Boston and the other in Springfield, MA. A summary report from the EEC program is included in the appendices which describes the methods and impact of this partnership.

CVMA, through its partnership with EEC, developed a strong partnership with the LiveWell Springfield-KIDS coalition, a target community of this grant. After presentations from CVMA coalition members, the LiveWell Springfield-KIDS coalition determined that children's vision was to be its priority focus. CVMA worked with the leadership of the LiveWell Springfield- Kids Coalition to outline a formal strategic plan as it relates to children's vision. The result was the EyeSEE (Eye Screening, Education, Exams) initiative- a program designed to increase parent understanding of children's vision, vision screening rates, and follow up to eye care. The initiative had the following intermediate and long-term outcomes:

Intermediate outcome objectives:

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- Increased the percentage of parents who intend to enroll their child in the EyeSEE vision health preventive program
- Increased the number of children participating in the EyeSEE health program
- Increased the number of sites incorporating supporting eye health curricula in classes
- Increased the number of families adopting preventive vision health behaviors
- 300 preschool-aged children and 200 infants and toddlers received a vision screening and follow-up eye care.

Long-term outcome objectives

- Improved vision health among children in licensed pre-school programs in Hampden County.
- Improved vision health access among pre-school aged children in Hampden County.
- Improved collaboration among community partners for children's vision, including LiveWell Springfield—KIDS coalition, Early Head Start Program, Lion Clubs, and community pediatricians

The EyeSEE initiative was featured in a presentation at the July 2016 "Focus on Eye Health National Summit 2016" in Washington DC, to highlight the need for early vision screening and comprehensive vision services to ensure all preschoolers enter Kindergarten with their best possible vision.

CVMA and Prevent Blindness worked to strengthen the partnership with the MA DPH Early Intervention (EI) Program through a meeting with the Director of MA Early Intervention Program in February 2017 with the discussion focused on the existing MA legislation that directs all young children with diagnosis of neurodevelopmental delay to be referred to comprehensive eye exam on diagnosis.

Currently there was no tracking, professional guidance, or support for implementation and data collection related to that mandate. Implementation of the law would provide vision and eye health education and care to the 20% of all MA children between the ages of 0-3 years presently served by the

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MA Early Intervention Program. In follow-up to this meeting, a new page was added to the EI professional handbook to guide implementation of the policy, the MA EI program included newsletter articles written by experts from CVMA describing the importance of vision health for this population of children, and CVMA accepted EI's offer for a presentation at the 2018 MA Early Intervention Consortium Annual Conference- presenting for the 4th consecutive year.

The final critical relationship developed during this program effort was with the MA Dept. of Public Health School Health Services. CVMA staff and volunteers met with the Director of School Health Services, the Director of the Division of Health Access, the Director of Government Affairs, and the Director of Policy for the Bureau of Community Health and Prevention in February 2017, to discuss a proposal for public school preschools to participate in a demonstration project to support use of evidence-based technology in vision screening and to serve as model for other preschools statewide.

This discussion resulted in approval of the preschool program participation in the demonstration project and the Richard and Susan Smith Family Foundation awarded this partnership \$46,858 in 2018 for the purchase of six vision screening instruments to be utilized by School Health Services, Massachusetts Department of Public Health, who distributed the devices to Regional Nurse Consultants for use by school nurses in public school preschools and kindergartens in Boston, Brockton, Chelsea, Fall River, Lawrence, Lowell, Lynn, New Bedford and other nearby communities in Eastern Massachusetts. This will result in minimum impact of completed screenings of 18,250 preschool and kindergarten children per year. Data reporting by school nurses is required to participate in the demonstration project. As this approach proves successful, it is already targeted for replication in school districts in Central MA, encouraged by local community foundations.

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An additional critical outcome of this work approach resulted in Policy and Legislative changes to support improved vision health outcomes for children in MA, including: a **State House** bill which passed in November 2017, establishing a commission on childhood vision and eye health in the Commonwealth which will result in formal recommendations for improvements in children’s vision statewide; CVMA **Children’s Vision Advocacy Day** at the State House in 2017; and a Public Health Committee Massachusetts legislature voted favorably on H3224, Vision Registry in Jan. 2018. Additionally, the MA Department of Public Health established a ‘Children’s Vision Team’ and a new position at DPH- Public Health Nursing Advisor I, Nursing Advisor for the Mandated Screening Program, in the Bureau of Community Health and Prevention *These are significant policy and structural changes which directly set the course for the sustainability of the work conducted by prevent Blindness and CVMA as a part of this Healthy Tomorrow’s grant.*

PUBLICATIONS/PRODUCTS: The following conference presentations and posters were provided in 2016 and 2017. Additional products, resources, and presentations are also detailed in the following “Dissemination Methods” section.

Presentations, Publications, Posters	Audience
Pediatrics journal article accepted for publication; June 21, 2017	Pediatricians, researchers
2016 ARVO Conference, Poster-Birth to Three Project	Researchers, vision specialists
2017 ARVO Conference, Poster-Birth to Three Project (Hot Topic Designation)	Researchers, vision specialists
2016 MA Early Intervention Consortium Presentation May 9, 2016—60 attendees	Early Intervention specialists
2017 MA Early Intervention Consortium Presentation May 8, 2017—60 attendees	Early Intervention specialists

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2016 National Head Start Association Annual Meeting Presentation May, 2016	Early education staff, health managers, parent partners
2017 National Head Start Association Annual Meeting Presentation May, 2017	Early education staff, health managers, parent partners
2017 Pediatric Academic Societies' Meeting-Presentation May, 2017	Pediatricians, allied staff
2017 National School Based Health Center Conference-Presentation June, 2017	School nurses, school administration staff, education funders

DISSEMINATION/UTILIZATION OF RESULTS: The Healthy Eyes Healthy Futures Massachusetts project employed a wide variety of approaches to disseminate the results of our work funded by the Healthy Tomorrows Partnership for Children Program in addition to the presentations listed above. These include:
 Conference participation and exhibition:

- 2 Children’s Vision Summits were held by CVMA- one held in Springfield, MA and the other in Boston, MA- convening 250 stakeholders in children’s vision
- NE Region School Nurse Annual Conference, Plymouth, MA
- MA Chapter American Academy of Pediatrics Annual Conference, Waltham, MA
- Federation for Children with Special Needs Annual Conference, Boston, MA
- MA Early Intervention Annual Conference, Framingham, MA
- Institute for Healthcare Improvement Annual Conference: INSTRUMENT-BASED VISION SCREENING FOR PRESCHOOL AGED CHILDREN: AN IMPLEMENTATION STUDY, Louis Vernacchio, MD, MSc; Jonathan Modest, MPH; Katherine Majzoub, RN, MBA; Bruce Moore, OD; Vijeta Bhambhani, MS, MPH; Emily K Trudell, MPH; Temitope Osineye, MBBS, MPH; Glenn Focht, MD; Jean Santangelo, RN, BSN
- 2016 American Optometric Association Annual Meeting: “Access to Eye Exams for Young Children in Massachusetts with Medicaid Insurance (Mass Health)” CVMA Geomap Project authors Quita

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Christianson, MPH, Dan Prendergast, Katie Ulrich, MPH, Rebecca Deffler, Sarah Miller and Adriana Ferreira

- April, 2015: National Head Start Association Annual Meeting; Alexandria, VA; J. Ramsey, B. Moore
- MA Early Intervention Consortium Annual Conference, May 6, 2015: Understanding Vision: Critical for Early Intervention Success, Marlborough, MA; J. Ramsey, D. Ledoux, K. Majzoub
- June 17, 2015: Prevent Blindness National Summit: Preschool Vision Screening in Primary Care: A Journey of Improvement? Washington, DC; L. Vernacchio, J. Modest

Professional Meeting presentations:

- Presentation to MA Regional Nurse Consultants to announce grant award and review partnership and funder requirements; March 1, 2018; Marlborough, MA
- Presentation at 'new school nurse' statewide meeting related to vision screening preschool age children with new, approved devices, March 22, 2018
- CVMA provided a webinar to 60 Early Intervention Program Directors Oct. 20, 2017

Publications and Reports:

- Articles published in the Journal of Pediatrics July 2017: Implementation of Instrument-Based Vision Screening for Preschool-Age Children in Primary Care (Jonathan R. Modest, MBA, MPH, Katherine M. Majzoub, RN, MBA, Bruce Moore, OD, Vijeta Bhambhani, MS, MPH, Sarah R. McLaughlin, MPH, Louis Vernacchio, MD, MSc)
- Whitepaper resource: *Access to Eye Exams for Young Children in Massachusetts with MassHealth (Medicaid) Insurance*; Quita Christianson, MPH, Katie Ulrich, MPH, Dan Prendergast, Rebecca Deffler, Sarah Miller, Adriana Ferreira

Press communications/Newsletters

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- CVMA awarded a Blue Cross Blue Shield Catalyst Fund grant for production of a video, and two thirty second Public Service Announcements, with the purpose of raising awareness about the critical link between a child's vision health, overall development, and learning
- CVMA produces an electronic newsletter sent out on a monthly basis beginning October 2014 to present

Pamphlets, Brochures, or Fact sheets

- Children's Vision Massachusetts Resource Guide for Children's Vision which is intended to provide families with the information they need to facilitate vision care for their young children.; October 2015

FUTURE PLANS/SUSTAINABILITY: The Healthy Eyes Healthy Futures project resulted in several structural changes at multiple levels in the system for children's vision which will results in ongoing efforts to improve vision and eye health outcomes for children in MA. This includes:

1. MA Department of Public Health has established a 'Children's Vision Team' in the department to promote uniformity in screening implementation, training, and data collection
2. A new position has been established at the MA Department of Public Health for a Public Health Nursing Advisor I, Nursing Advisor to support the mandated screening program within the Bureau of Community Health and Prevention
3. A Legislative act creating a Children's Vision Commission was passed, and will be convened by the Public Health Commissioner in 2018. This Commission will develop formal recommendations for the state of MA that will lead to improved systems of care for children's vision and eye health surveillance.
4. The Richard and Susan Smith Family Foundation awarded Prevent Blindness NE Region \$46,858 for the purchase of six vision screening instruments to be donated to School Health Services, Massachusetts

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Department of Public Health, who distributed the devices to the Regional Nurse Consultants for use by school nurses in public school preschools and kindergartens throughout Eastern MA. This will result in improved screening practices for 18,250 children annually.

5. The methodology for vision assessment in children ages Birth to 3 years of age developed by this project has impacted the vision screening assessment methods for Early Head Start programs nationally and is currently being adopted for use nationally by the Parent-as-Teachers program curricula for use in home visitation programs.

The project methods and products lend themselves to ongoing collaboration and funding opportunities. Ideas for extension of this work include:

1. Repeat the community foundation funding opportunities to provide evidence-based screening tools in school systems serving preschool aged children.
2. Integrate the approach developed in the Birth to Three Project into other state and national level screening efforts for very young children
3. Actualize the recommendations developed by the MA Legislative Commission on Children's Vision

Prevent Blindness and the members of the Children's Vision Massachusetts coalition would like to thank the Healthy Tomorrows Partnership for Children Program for the opportunity to develop a wealth of best practices, resources, partnerships, and structural changes that have resulted in improved vision and eye health for children in Massachusetts. The impact of this work does not lie in the state alone, but will reach all parts of the U.S. as these methods are spread through the national Center for Children's Vision and Eye Health and future collaborative partnerships. This would not have been possible without your financial and personal support.



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Appendices

The following documents are included with the Final Report Narrative as Appendices as noted in the report text:

Appendix 1: CVMA Project Roster/QWG members

Appendix 2: Summary of EEC grantee experiences with the resources and professional education

Appendix 3: The Birth to 3 Project vision questionnaire- FINAL

Appendix 4: Childhood Vision Commission text

Appendix 5: Pediatrics Journal publications

Appendix 6: CVMA Project Summary Presentation