Registry of Efficacy and Effectiveness Studies

Study Title:
Evaluation of Vision for Baltimore

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Version History

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Section I: General Study Information

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Study Start Date:
2016-08-26

Study End Date:
2020-01-31

Intervention Start Date:
2018-11-01

Timing of entry:
Prior to collection of outcome data

Brief Abstract:
Vision for Baltimore is a citywide program to expand school-based vision care and provide glasses to students who need them. It is a partnership between the Baltimore City Public School Systems, the Baltimore City Health Department, Vision to Learn, Warby Parker, and Johns Hopkins University. Researchers at Johns Hopkins University will evaluate the impacts of the school-based vision care program on students' academic and engagement outcomes.

Keywords:
School-based health, School-based vision, Randomized controlled trial, Research-practice partnerships, Program evaluation, Reading achievement

Comments:
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Section II starts on the next page.

Section II: Description of Study

Type of Intervention:
School-based vision care

Topic Area of Intervention:
School-based vision care

Number of intervention arms:
2

Target school level:
1, 2, 3, 4, 5, 6, 7, 8, Kindergarten

Target school type:
Urban

Location of Implementation:
United States: United States : South

Further description of location:
Baltimore, Maryland

Brief Description of Intervention Arm 1:
Beginning in the fall of 2016, the Baltimore Health Department expanded school-based vision screening to all students in Baltimore City Public Schools in grades K through 8. Students who failed these initial screenings were then referred for vision exams, which were conducted by Vision to Learn. Students who failed the screenings received a vision exam only if they returned a sign consent form. To conduct the vision exams, Vision to Learn transported its Mobile Clinic to individual schools. If students were found to need eyeglasses, Vision to Learn also measured students to determine appropriate eyeglass size. Eyeglasses were ordered for students who needed them, and Warby Parker fulfilled the orders. Eyeglasses were then transported to individual schools for specific students. The intervention also included the help of school vision advocates, who were project personnel employed by Johns Hopkins University and who visited schools to raise awareness of the vision program and to assist in the logistic details of the program (e.g, obtaining parental or guardian consents for students to receive the vision exams). Baltimore City Public Schools also served as a project partner and assisted in pushing out communications to principals about the school-based vision program.

Brief Description of Intervention Arm 2:

Brief Description of Comparison Condition:
Business-as-usual. The Baltimore Health Department routinely conducts vision screens for all children in preschool or kindergarten (or upon entry to district) and in the first and eighth grades. No other vision supports were provided to students in comparison schools.

Comparison condition:
Business-as-usual

Comments:
-

Section III: Research Questions

Confirmatory research questions:

Question 1:

What is the effect of providing eyeglasses and a school-based intervention to promote eyeglass usage on student growth in reading and mathematics for students in grades 3-8 with refractive errors (myopia, hyperopia, astigmatism)?

Exploratory research questions:

Question 1:

What is the effect of providing eyeglasses and a school-based intervention to promote eyeglass usage on variables beyond achievement, such as attendance, for students with refractive errors?

Question 2:

How do program effects vary for students with different types and severities of refractive error? How do they vary for students with high, average, or low reading achievement at baseline? For boys and girls?

Question 3:

What is the effect of providing eyeglasses and a school-based intervention to promote eyeglass usage on student growth in reading and mathematics on formative assessments (e.g., iReady) for students with refractive errors in grades K-2?

Comments:

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Section IV-A: Study Design (Selection)

Study Design:

Randomized Trial (RT)

Comments:

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Section IV-B: Study Design (Input)

Study Design: Input

Unit of random assignment of intervention:

School

Assignment within sites or blocks:

Yes

Define the sites or blocks:

School Type, Charter Status, Pilot School Status, Demographics

Probability of assignment to treatment the same across sites or blocks:

No

Probability of assignment to treatment:
Schools were randomly assigned into three groups. The first cohort received the intervention for 1+ school years. The second cohort received the intervention for <1 school year. The third cohort is the comparison group. There was a 33% chance that schools were assigned to each group. However, given that two of the randomized groups received the treatment, the probability of assignment to treatment across all cohorts was 2/3.

Unit outcome data measured:
Student

Intermediate clusters between unit of random assignment and unit of measurement:
No

Comments:
-

Design Classification

Based on the responses above, this study has been classified as:
RT: Multisite (Blocked) Cluster Randomized Trial

Section V: Sample Characteristics

Approximate number of students per school: 40

Approximate number of schools in the comparision condition within each block (School Type, Charter Status, Pilot School Status, Demographics): 4.6

Approximate number of schools in the intervention condition within each block (School Type, Charter Status, Pilot School Status, Demographics)1: 4.8

Approximate number of schools in the intervention condition within each block (School Type, Charter Status, Pilot School Status, Demographics)2: 4.4

Number of blocks (School Type, Charter Status, Pilot School Status, Demographics): 9

Yes - Students who (a) failed initial vision screenings; (b) underwent more comprehensive vision exams; (c) were diagnosed with a refractive error and were prescribed eyeglasses; and (d) were not diagnosed with non-refractive ocular pathology (a more serious condition). Yes - Students who did not meet the study criteria (see above). Yes - Non-alternative elementary and middle schools in Baltimore City Public Schools Yes - Hampstead Hill was excluded from the study because the school received the intervention prior to randomization. The school was randomly assigned at the onset of the study, but should have been excluded from the sample of study schools. No No
Comments:
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Section VI: Outcomes (Input)

Confirmatory question 1: Outcome Measure 1

Outcome domain: Student Achievement - Literacy
Minimum detectable effect size: 0.148
Outcome measure: PARCC ELA

Scale of outcome measure: Continuous

Normed or state test: Yes

Same outcome measure in treatment and comparison groups: Yes

Confirmatory question 1: Outcome Measure 2

Outcome domain: Student Achievement - Literacy

Minimum detectable effect size: 0.148

Outcome measure: PARCC Math

Scale of outcome measure: Continuous

Normed or state test: Yes

Same outcome measure in treatment and comparison groups: Yes

Section VII: Analysis Plan

Baseline data collected prior to start of intervention:

Yes

Description of baseline data:

Baseline data will include students' PARCC scores from prior years. Because PARCC is administered only for students in grades 3-8, other available pretest data, such as students' iReady scores, will be used as the pretest for students in grade 3.

Covariates you plan to include in the model:

English Language Learner Status, Free and Reduced Lunch Status, Gender, Grade, Race, Special Education Status, Student Pretest

Covariates you plan to include in the model:

School-level blocking variables.

Analytic model:

To address the confirmatory research question, we will use hierarchical linear modeling (HLM) to estimate the impact of school-based vision services on students' achievement in reading and mathematics. HLM accounts for the fact that students are clustered within schools. We will estimate differences in spring achievement for students in schools that have received vision services and for students in control schools. We will also account for students' achievement prior to any vision services by including a pretest as a covariate in the models. The models will also include student grade level at the time of school random assignment and school-level blocking variables or covariates used in the random assignment process.

Plan to handle cases with missing outcome data:

Delete cases with missing data for the outcome being analyzed

Planned multiple comparisons adjustment, confirmatory question 1 :

No

Comments:

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Section VIII: Additional Information

Links:

https://health.baltimorecity.gov/VisionForBaltimore

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https://www.hopkinsmedicine.org/wilmer/research/dana-center/research/breds/vision-for-baltimore.html

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http://archive.education.jhu.edu/research/crre/index.html

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Files:

No Files have been added yet.

Comments:

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