

Hearing Screening Disparities in Minnesota Schools

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Introduction

- Standardization of newborn hearing screening improved equity in access to hearing healthcare at the newborn level.
- Inequity at the school screening level exists as access to hearing screening as care is currently distributed based on the local resources of the school
- School screening is necessary as:
 - 50% of 9-year old's with educationally significant hearing loss passed their newborn hearing screen¹
 - Approximately 14% of school-aged children have permanent and/or transient hearing loss in one or both ears^{2,3}.

Methods and Materials

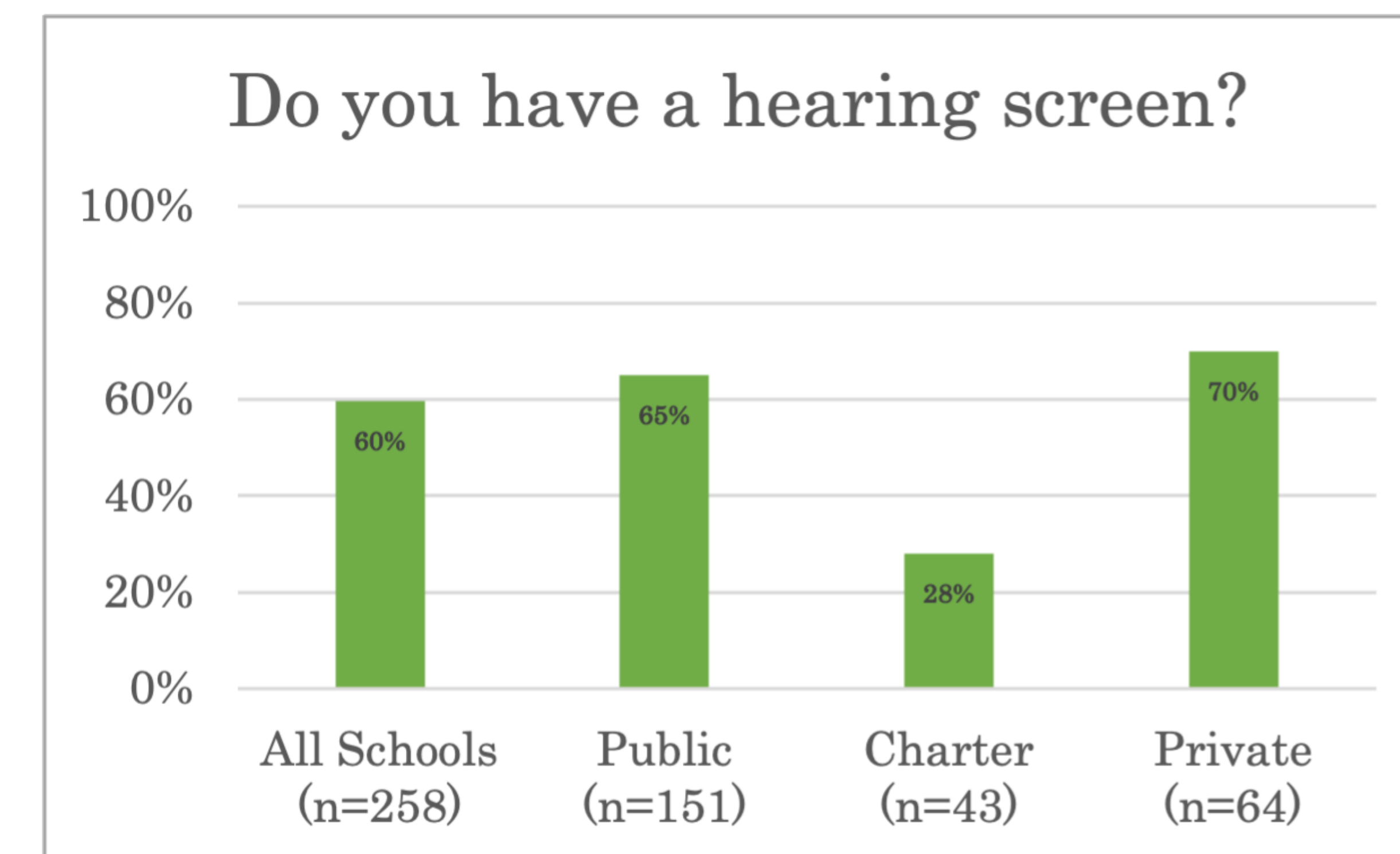
- Prospective surveys conducted between March to June 2023 of all elementary schools in the two most populous counties in Minnesota (Hennepin and Ramsey County) of current hearing screening practices.
- Standardized hearing screen was defined as hearing screens being performed on all students in a grade.
 - Schools that performed hearing screens on students in only special education, individualized education program (IEP) or per parent/teacher requests were not considered standardized.

Conclusions

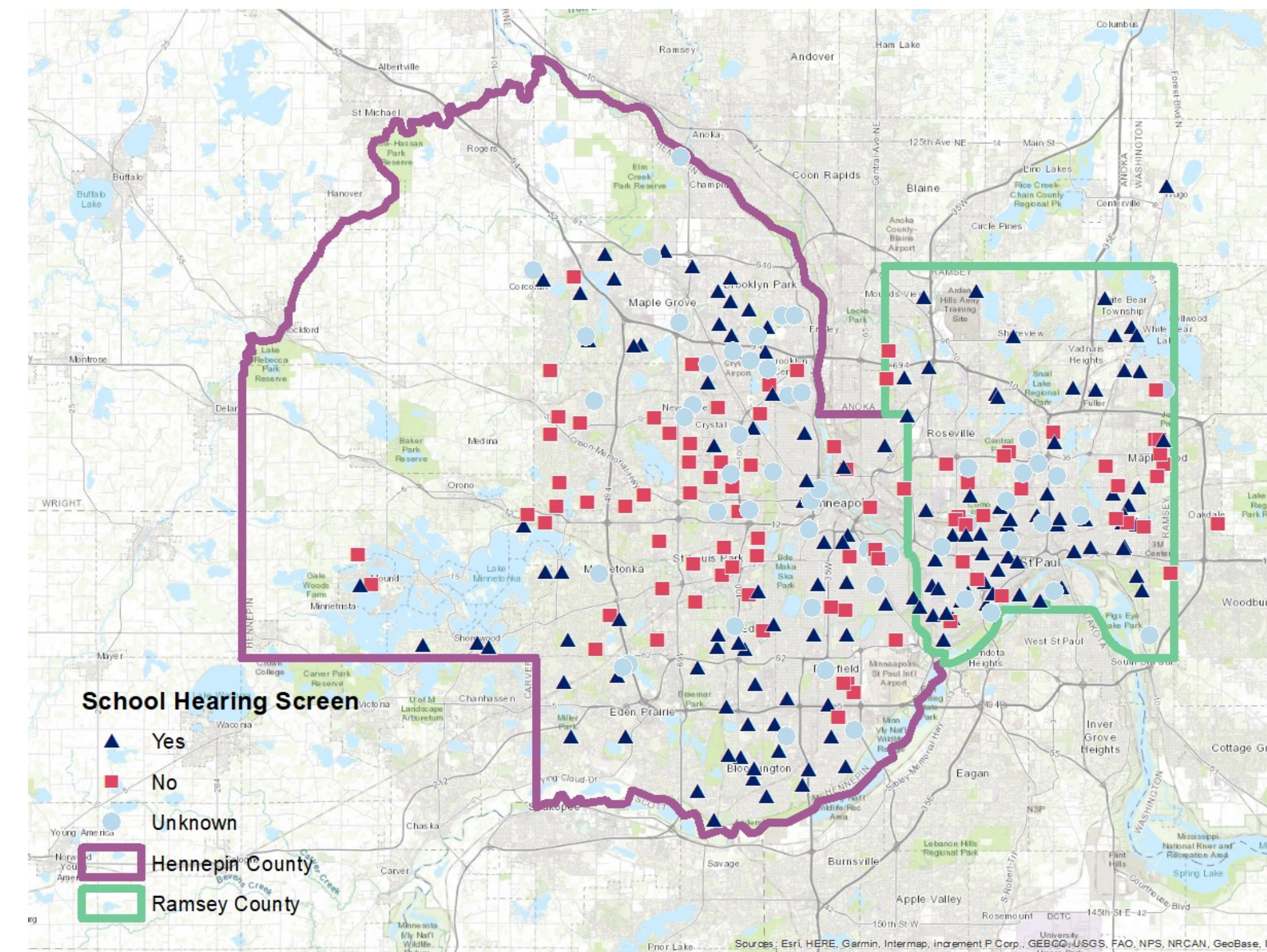
- The lack of hearing screening standardization in schools further exacerbates inequities in hearing healthcare at the elementary school level.
- Access to school hearing screenings should not be dependent on the school type, school zip code or the percentage of students who qualify for free/reduced lunches.
- Our preliminary data results demonstrate an opportunity for improvement in standardized hearing screens as 89% of schools expressing interest in participating in additional hearing screening.
- *Future Directions:*
 - *Evaluate if rates of hearing loss at schools vary by ethnicity, socioeconomic status, etc.*
 - *Evaluate if rates of referrals and show rates to clinic appointments for hearing loss to Pediatric Audiology and Otolaryngology clinics correspond to rates of loss identified in the community*

Results

- 315 schools (with grades 1,3,5) in Hennepin/Ramsey County
 - 258 schools responded (81.9% response rate)



- Only twelve schools (4.7%) screened all students
- Fifteen schools (5.8%) had no screenings at all



- Schools with a median household income below the county average were less likely to have a standardized hearing screen (*not statistically significant p=0.95)
 - Of the 171 schools (54%) in zip-codes with median household income below the county average only 47% had standardized hearing screen
- Schools with a median household income above the county average were more likely to have a standardized hearing screen (*not statistically significant)
 - Of the 144 schools (46%) in zip codes with median income above the county average 51% had standardized hearing screens.
- 89% of all schools that responded expressed interest in expanding their existing screening with a pilot program providing free hearing screens for all students in grades 1,3 and 5 at randomly selected schools.

References

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3. Shargorodsky J, Curhan SG, Curhan GC, Eavey R. Change in Prevalence of Hearing Loss in US Adolescents. :7.