

St. Louis Children's Hospital Screening Van: Partnering with School Districts to Address the Link Between Obesity and Hearing Loss

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Background

- Healthy People 2020 has reported a connection between hearing loss and obesity.
- Obesity affects 1 in 6 people and 33 infants are born with some sort of hearing loss every day.
- Disparities in care for hearing loss and obesity exist among those with low socioeconomic status.
- St. Louis Children's Hospital's (SLCH) Community Health Needs Assessment identified obesity and access to hearing services as one of the top concerns of the community.
- SLCH provides the Healthy Kids Express (HKE) Screening Van, a site based program, that partners with local school districts, Head Starts, daycares and other community sites to address screening needs by alleviating transportation barriers in underserved communities.

Methods

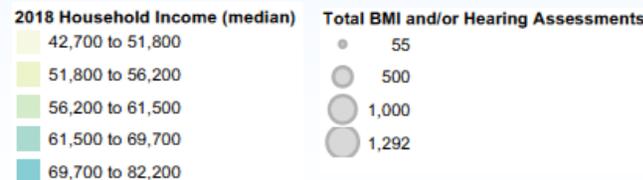
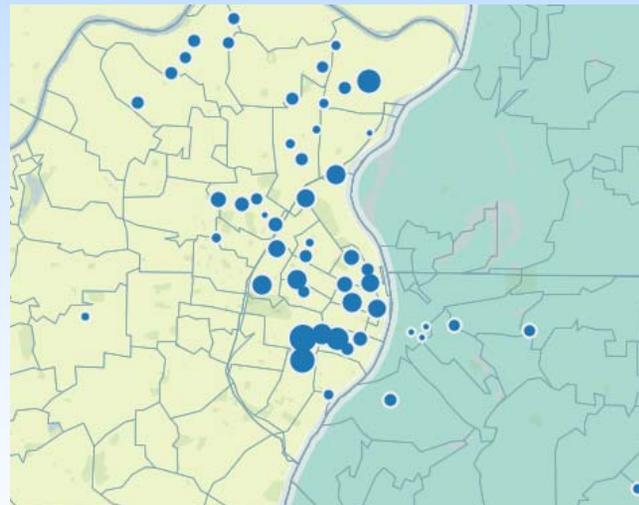
- HKE Staff collect height/weight, hearing and other screening assessments along with demographic information such as age, race and gender
- Height and weight measurements were used to calculate Body Mass Index (BMI) and were classified by weight status: obese, overweight, normal weight and underweight.
- Obesity was defined as children in the 95th or above BMI percentile.
- Hearing was categorized by pass/fail.
- HKE Social workers follow-up with children who fail a hearing test and BMI status reports were sent to schools containing aggregate results and weight management recommendations.



Results

	Obese (n, %)	Over-weight (n, %)	Normal Weight (n, %)	Under Weight (n, %)
Pre-Kindergarten	4 (7.8%)	5 (9.8%)	40 (78.4%)	2 (3.9%)
KG –	319 (20.0%)	251 (15.7%)	987 (61.9%)	38 (2.4%)
4 th Grade	290 (27.9%)	183 (17.6%)	551 (53.0%)	16 (1.5%)
8 th Grade	134 (23.8%)	105 (18.7%)	320 (56.8%)	4 (0.7%)
9 th –				
12 th Grade				

BMI and/or Hearing Assessments by Location



Results

- HKE Screening Van visited 75 sites in 2017.
- There were a total of 12,194 height/weight assessments administered in 2017. In a sample of 3,250, 23% were obese.
- All grades except Pre-Kindergarten did not meet Healthy People 2020 goals for obesity.
 - Females had statistically higher BMIs than males ($\chi^2=27.046$, $p=.000$).
 - Middle school and high school students had statistically higher BMIs than elementary school students ($\chi^2=46.809$, $P=.000$).
- In 2017, there were a total of 7,448 hearing assessments of which 236 (3.2%) failed.
 - 138 (43%) were closed with positive outcomes of connecting them to a primary care physician.
- There was no link between those who failed hearing tests and those who were obese in this sample, but HKE continues to monitor this connection.

	Obese	Over-weight	Normal Weight	Under weight
Male	20.8%	14.7%	62.2%	2.4%
Female	25.2%	18.8%	54.8%	1.3%
Overall	23.0%	16.7%	58.4%	1.8%

Conclusion

- Health screens can detect hearing problems early and provide solutions to reduce the burden of associated comorbidities.
- The HKE team offers a multitude of services in one van to address the link between obesity and hearing loss and the top needs of the St. Louis community.

