

Reducing E-Cigarette Use Among High School Students: An Evidence-Based Practice Improvement Project

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BACKGROUND

- Electronic Cigarette (e-cigarette) use in adolescents has rapidly increased since its introduction to the United States tobacco market in 2017.^{2,13}
- Misleading marketing has led to high school students reporting e-cigarette liquid that is solely flavored, but when tested, 99% of the e-liquids contained nicotine.²
- Long-term nicotine use is associated with deficits in memory and attention, increased mortality, risk for comorbidities, and impulsive behaviors, and a decline in mental health; ultimately effecting school attendance and performance.^{2,17,25}
- Significant adverse respiratory effects, such as e-cigarette, or vaping, associated lung injury (EVALI), have resulted from e-cigarette use.^{3,23}

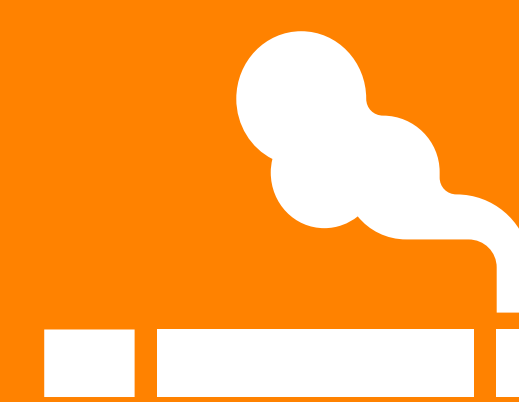
LOCAL PROBLEM

- The practice improvement project took place at an urban magnet public high school in Middle Tennessee.
- Administration and teachers have felt the increase in e-cigarette use on campus and no education program was in place.
- The purpose of the scholarly project is to reduce the reported e-cigarette use and number of e-cigarette citations in the high school setting within there months of the CATCH My Breath e-cigarette education program implementation.
- The aims of the project were:
 - Reduce reported e-cigarette use in school by 30% within three months.
 - Reduce the number of e-cigarette citations by 25% within three months.

METHODS

- The guiding framework for this project was the Evidence-based Practice Improvement Model.
- Literature search and critical appraisal strongly supports the implementation of CATCH My Breath e-cigarette education program.
- Plan, Do, Study, Act (PDSA) cycles were used for the development and implementation of the CATCH My Breath e-cigarette education program.
- Outcome measures of past 30day use, intent to use, and harmfulness perception of e-cigarettes were gathered pre- and 1-month post-implementation.
- Outcome measure of e-cigarette citations was gathered for a 3-month period pre- and post-implementation.

High school student *e-cigarette use decreased and student perception on harmfulness increased* after implementation of the CATCH My Breath e-cigarette education program.



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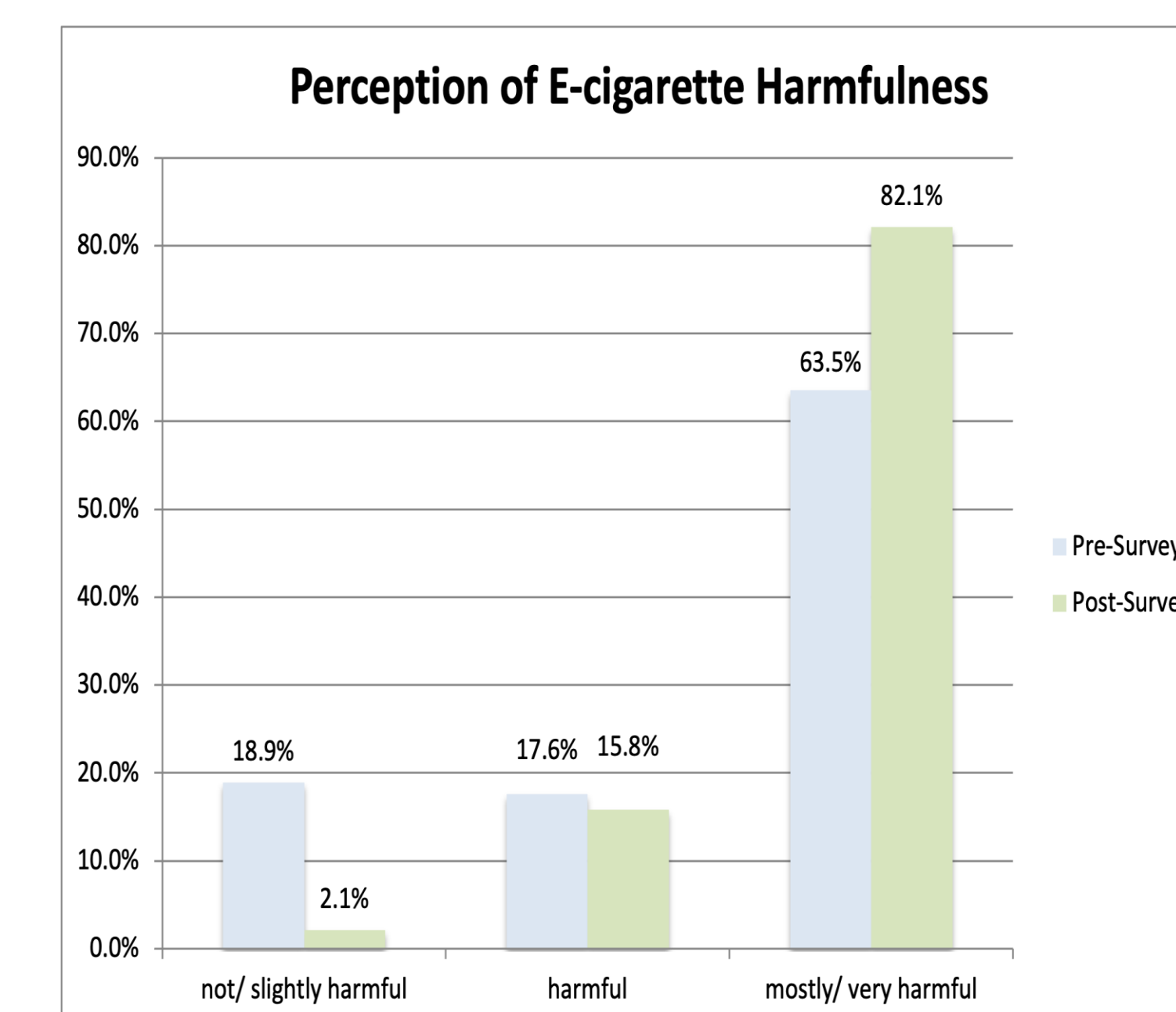
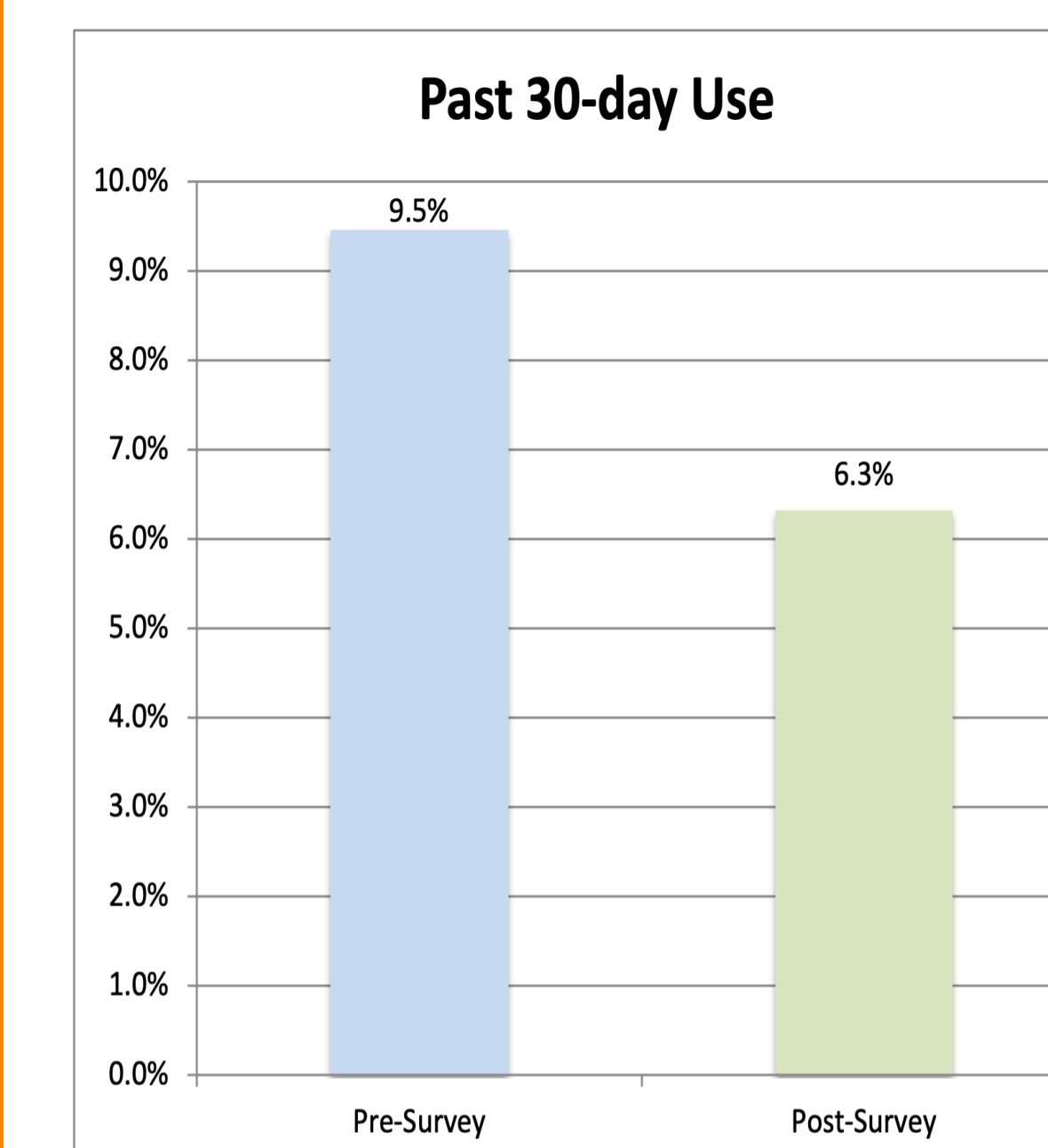


INTERVENTIONS

- The CATCH My Breath e-cigarette education program was implemented in all the wellness classes for one teacher.
- Education included PowerPoint lecture slide, group activities, and self-reflection.
- Education was split up into four lessons delivered over two days for each class.

RESULTS

- Past 30-day use decreased by 33.7% post-implementation, meeting our aim of 30% reduction in use.
- Perception of e-cigarette harmfulness as not/slightly harmful decreased by 88.9%.
- Perception of e-cigarette harmfulness as mostly/very harmful increased by 29.3%.
- E-cigarette citations were unchanged post-implementation.



CONCLUSIONS

- Implementation of the CATCH My Breath e-cigarette education program reduced reported e-cigarette use and increased perception of harmfulness among high school students at the project site.
- E-cigarette citation outcome evaluation limited by program delivery to 10% of student body, data only available for aggregate.
- E-cigarette education is essential to reducing e-cigarette use among adolescents.
- Project site administration intend to continue the CATCH My Breath e-cigarette education program more widely due to the success of the project.

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