

University of Louisville

## ThinkIR: The University of Louisville's Institutional Repository

---

Undergraduate Arts and Research Showcase

Undergraduate Research

---

2020

### Screening for E-cigarette and Tobacco Use in Standardized Patient Encounters

Michael A Schmidt

*University of Louisville*, michael.schmidt.1@louisville.edu

Emily J. Noonan

*University of Louisville*, emily.noonan@louisville.edu

Laura A. Weingartner

*University of Louisville*, laura.weingartner@louisville.edu

Follow this and additional works at: <https://ir.library.louisville.edu/uars>



Part of the [Medical Education Commons](#)

---

#### Recommended Citation

Schmidt, Michael A; Noonan, Emily J.; and Weingartner, Laura A., "Screening for E-cigarette and Tobacco Use in Standardized Patient Encounters" (2020). *Undergraduate Arts and Research Showcase*. 30. <https://ir.library.louisville.edu/uars/30>

This Book is brought to you for free and open access by the Undergraduate Research at ThinkIR: The University of Louisville's Institutional Repository. It has been accepted for inclusion in Undergraduate Arts and Research Showcase by an authorized administrator of ThinkIR: The University of Louisville's Institutional Repository. For more information, please contact [thinkir@louisville.edu](mailto:thinkir@louisville.edu).

# Screening for E-cigarette and Tobacco Use in Standardized Patient Encounters

Andrew Schmidt, BS Candidate<sup>1</sup> Emily J. Noonan, PhD, MA<sup>2</sup> Laura A. Weingartner, PhD, MS<sup>2</sup>  
<sup>1</sup>University of Louisville Department of Biology; <sup>2</sup>University of Louisville School of Medicine

## Background

- A 2019 survey reported that 27.5% of high school students and 10.5% of middle school students reported current e-cigarette usage.<sup>1</sup>
- The long-term health consequences of these devices are still being investigated, but aerosol could contain harmful substances including nicotine, heavy metals, and carcinogens.<sup>2</sup>
- The majority of e-cigarette users report not knowing that the product contains nicotine.<sup>3</sup>
- Therefore, it is important for physicians to ask patients about e-cigarette usage specifically, as this may contribute to future health problems.
- The goal of this study was investigating if and how medical students ask about e-cigarette usage.

## Predictions

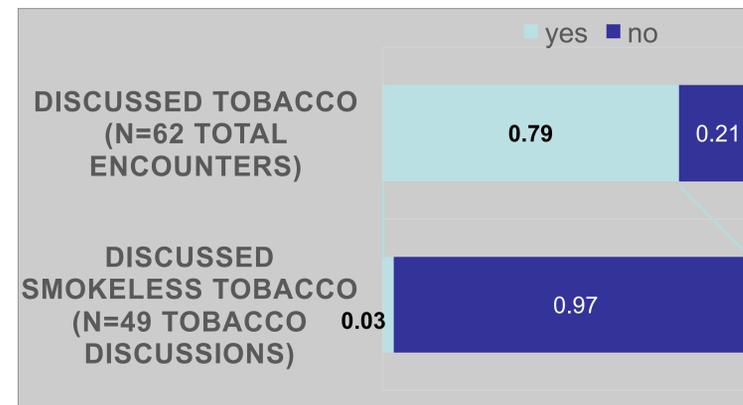
- We predicted that the majority of students would not ask about e-cigarette usage, because this does not factor into the usual questioning regarding tobacco usage.

## Methods

- This study sampled video-taped encounters of third-year medical students taking a new patient history with a standardized patient in 2017.
- Standardized patient encounters are a type of assessment that medical students complete to observe how they interact with simulated patients.
- In this patient case, the patient answered “no” to any screening questions about tobacco use or smoking, including e-cigarettes.
- The specific phrasing of questions related to tobacco usage, including initial and follow-up questions, were coded in 62 patient encounters.
- The UofL IRB approved the study

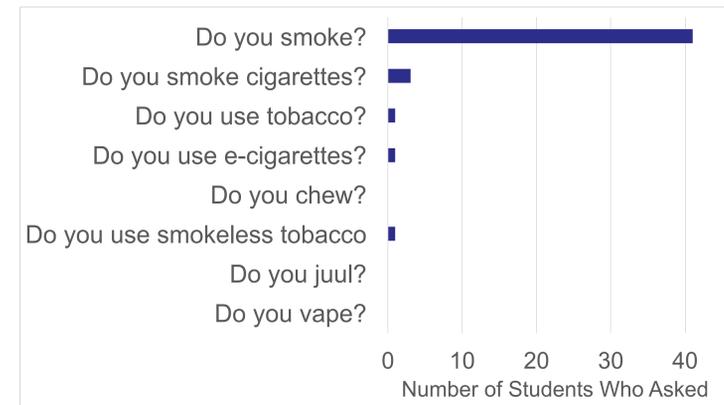
## Results

Figure 1. Frequency of tobacco use discussions



- Among the sample of 62 standardized patient, most students asked about tobacco usage.
- However, the vast majority of these discussions about tobacco did not include smokeless tobacco specifically.

Figure 2. How trainees question about tobacco use



- Among the subset of students who discussed tobacco, most students led with the question “Do you smoke?”
- When the patient replied “no,” to smoking, almost no students followed up to clarify if the patient used e-cigarettes or any other form of tobacco.

## Discussion

- Our results demonstrated that the majority of students (~97%) did not ask about e-cigarettes specifically.
- In addition to these findings, 21% of students did not ask about tobacco usage at all. This was surprising, as it is normal when establishing primary care to ask about drug and alcohol use.
- Most students simply asked, “Do you smoke?” but did not specify to the patient what product they were asking about.
- Overall, the evidence shows that e-cigarette and vaping device usage is not being addressed in these interactions.
- A limitation of these results is that these videos were recorded in 2017; e-cigarette use has gained more attention since this time, so it is possible that tobacco screening may have adapted.
- However, these results demonstrate a gap and reflect how physicians were likely trained to screen for tobacco in this way, so it is likely that many practicing physicians may need additional training about screening for e-cigarette usage.
- Studies with high school students have also found that updating screening terminology can increase the accuracy of prevalence studies about tobacco use,<sup>5</sup> which suggests that updated screening guidelines in healthcare settings could also improve understanding of patient tobacco use.
- Among high school students in Los Angeles, those who used e-cigarettes compared with nonusers were more likely to report combustible tobacco use over the next year,<sup>3</sup> which reinforces how knowing a patients’ e-cigarette use specifically could give physicians an opportunity to discuss the importance of cessation.

## Conclusions

- Most trainees do not ask about e-cigarettes specifically, which demonstrates a need for updated patient intake practices in regards to tobacco use to inquire specifically about e-cigarette usage separately.
- Providers should must be made aware of the potential disconnect between patient understanding of “smoking” along with potential effects of e-cigarettes on patient outcomes.
- In addition to education for current trainees, continuing faculty education around e-cigarette use could address gaps since many physicians were educated about tobacco use before widespread use of these types of devices.

## Future Study

- A companion study could ask patients if they distinguish traditional tobacco usage (cigars, cigarettes, etc.) from vaping and e-cigarettes when asked by a provider.
- Future studies could examine how often patients who report users of vape and e-cigarette devices transition to other tobacco products such as cigarettes and cigars.

## Acknowledgements

This study was funded by the Medical Education Research Award (MERA) from the University of Louisville College of Arts & Sciences. The authors thank the Standardized Patient Program at the University of Louisville School of Medicine and Dr. M. Ann Shaw, Vice Dean for Undergraduate Medical Education, for their work and support in providing access to simulated patient encounters.

## Bibliography

1. Cullen KA, et al. e-Cigarette Use Among Youth in the United States, 2019. JAMA.2019;322(21):2095-2103.
2. Callahan-Lyon P. Electronic cigarettes: human health effects, 2014. Tobacco Control. (23): 36-40
3. Willett JG et al. Recognition, use and perceptions of JUUL among youth and young adults. Tobacco Control.2019;28(1):115-116.
4. Leventhal AM, Strong DR, Kirkpatrick MG, et al. Association of electronic cigarette use with initiation of combustible tobacco product smoking in early adolescence. JAMA. 2015;314(7):700-707. doi:10.1001/jama.2015.8950
5. Morean ME, Camenga DR, Bold KW, et al. Querying About the Use of Specific E-Cigarette Devices May Enhance Accurate Measurement of E-Cigarette Prevalence Rates Among High School Students. Nicotine & Tobacco Research. 2018.