Background

E-cigarettes are used frequently by U.S. adolescents, with reported use of 1 in 5 high school students and 1 in 20 middle school students. Nicotine is the primary substance delivered and can have a negative effect on the developing brain, impacting attention, learning, and memory. Other drugs can be used in e-cigarettes and vaping devices, with marijuana being the most common. Health professionals have an important role in screening for use, providing patient education on the risks, and encouraging patients to quit.

Aims

Increase patient-provider discussions (recorded through patient surveys) and provider documentation (recorded through documentation in Epic) regarding e-cigarettes and vaping use by 30% from baseline during all well-child visits at the Young Adult and Adolescent Clinic.

Interventions

An initial provider survey was completed by attending and resident physicians and revealed the following:

- Providers desired more information to provide to patients in the form of handouts, websites, or props.
- Providers desired to know the most common terms for e-cigarette and vaping use.
- Optimal discussion and documentation of e-cigarette and vaping use occur during the HEEADSSS review and subsequent documentation in the note rather than during intake.

Two interventions were initiated to improve patient-provider discussions and documentation about e-cigarette and vaping use:

**Intervention 1:** Informational poster added to patient rooms

**Intervention 2:** Epic note template expanded to include a comprehensive multi-select substance list in the HEEADSSS review for providers to review and document e-cigarette and vaping use

Data was gathered in 4 week intervals via:

- Patient surveys, provided after the visit by clinic staff
- Epic chart review of provider documentation after the visit

Results Summary

- Patient-provider discussions increased from baseline by 9.32% after intervention 1 and by 5.51% after intervention 2.
- Provider documentation increased from baseline by 3.04% after intervention 1 and by 43.04% after intervention 2.
- Success of both discussion and documentation for a given encounter decreased by 6.09% from baseline after intervention 1 but increased by 20.58% from baseline after intervention 2.

Most frequently reported terms from patients for describing e-cigarette and vaping were “vape”, “JUUL”, and “ecig”. The term “dab pen” was also used in conjunction with marijuana or THC oil.

Measures & Results

- Implementing an educational poster in patient rooms was helpful for increasing rates of discussion of e-cigarette and vaping use and to a lesser extent documentation.
- Providing a more detailed note template for providers improved the thoroughness of discussion of substance use and to a greater extent documentation.
- Lack of standardization across providers in the clinic resulted in inconsistency for rates of discussion and documentation.

Challenges

- Providing a detailed multi-select list of options in the Epic note template did not guarantee that providers discussed use of every substance included in the list with patients.
- Differences in clinic staff workload and workflow resulted in unequal sample sizes and collection timeframe between the baseline and intervention groups.

Future Work

- Focus interventions on making discussion and documentation of e-cigarette and vaping use routine with consideration of individual provider practice.
- Increase patient and provider education about e-cigarettes.
- Continue optimizing Epic note templates to meet the needs of providers and reflect current adolescent tendencies.

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References

1. https://www.cdc.gov/tobacco/basic_information/e-cigarettes/index.htm
Intervention 1

Informational Poster

DO YOU USE E-CIGARETTES, VAPES, JUULS, OR PENS?

Do e-cigarettes contain nicotine?
Yes! The CDC states that 99% of e-cigarettes contain nicotine which can change your brain to make you crave more and more.

What is the big deal about nicotine?
Your brain is still developing until 25 years old. Nicotine can alter your brain and make it harder to concentrate, learn, control your impulses, and can affect your mood.

Are e-cigarettes actually harmful?
Yes! They contain harmful chemicals, other than nicotine, that are dispersed throughout your lungs. The chemicals damage your lungs and make it more difficult to breathe.

Isn’t it only water vapor?
Unfortunately, no... The aerosol contains ultrafine particles that go into the deepest part of your lungs. The flavorings are linked to serious lung diseases. Some of the other particles can cause cancer and contain heavy metals like nickel, tin, and lead.

Informational poster was added to patient rooms

Intervention 2

Note Template - Before Intervention

Epic note template was modified to include a comprehensive multi-select substance list in the HEEADSSS review for providers to review and document e-cigarette and vaping use.

Note Template - After Intervention