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E-Cigarettes: What Primary Care Providers Need to Know

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Authors	Albert, Jennifer S
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THE UNIVERSITY
OF VERMONT
COLLEGE OF MEDICINE

E-CIGARETTES: WHAT PRIMARY CARE PROVIDERS NEED TO KNOW

WATERBURY, VERMONT

JENNIFER ALBERT, JUNE 2016

LAURA REMICK, NORTHEASTERN VERMONT AHEC

NICOLE LAPOINTE, NORTHEASTERN VERMONT AHEC

DR. WILLIAM COVE, WATERBURY FAMILY MEDICINE

E-CIGARETTE EDUCATION

- E-CIGARETTES ARE GAINING IN POPULARITY, YET OUR UNDERSTANDING OF THEIR HEALTH EFFECTS REMAINS UNCERTAIN. MANY PEOPLE BELIEVE THAT THEY CAN AID IN SMOKING CESSATION, HOWEVER THE EVIDENCE IS INCONCLUSIVE. THE CONFLICTING INFORMATION IN THE PUBLIC MEDIA HAS LED SOME PROVIDERS IN CENTRAL VERMONT TO RECOMMEND E-CIGARETTES TO THEIR PATIENTS. THIS RECOMMENDATION, HOWEVER, IS IN CONFLICT WITH THE VERMONT DEPARTMENT OF HEALTH, AMERICAN COLLEGE OF PHYSICIANS, AMERICAN ACADEMY OF FAMILY PHYSICIANS, AND MANY OTHER REPUTABLE ORGANIZATIONS. THE US PREVENTATIVE SERVICES TASK FORCE RECOMMENDS THAT DUE TO THEIR UNREGULATED NATURE AND INSUFFICIENT EVIDENCE OF EFFICACY, PATIENTS SHOULD BE DIRECTED TOWARDS OTHER SMOKING CESSATION INTERVENTIONS WITH ESTABLISHED EFFICACY AND SAFETY.
- ACCORDING TO THE 2015 VERMONT YOUTH RISK BEHAVIOR SURVEY, E-CIGARETTE USE HAS BOOMED AMONG YOUTH, WITH 30% OF VERMONT HIGH SCHOOL STUDENTS REPORTING E-CIGARETTE USE.¹ THIS USE EXPOSES THEM TO NICOTINE ADDICTION AND AN INCREASED RISK OF CONVENTIONAL CIGARETTE ADDICTION.² WHEN DISCUSSING SUBSTANCE USE WITH TEENAGERS, IT IS IMPORTANT TO ASK ABOUT E-CIGARETTES AND PROVIDE EDUCATION ABOUT THEM.

COST CONSIDERATIONS

- CIGARETTE SMOKING IS THE #1 PREVENTABLE CAUSE OF MORTALITY, CAUSING ALMOST 6 MILLION ANNUAL DEATHS WORLDWIDE. BETWEEN 2000 AND 2004, EXPOSURE TO CIGARETTE SMOKE COST \$96.8 BILLION IN PRODUCTIVITY LOSSES ANNUALLY IN THE US.³ THE ESTIMATED COST PER NET YEAR OF LIFE GAINED DUE TO SMOKING CESSATION IS \$6,828. THIS IS RELATIVELY INEXPENSIVE COMPARED TO OTHER MEDICAL SERVICES.⁴
- US INSURANCE COMPANIES ARE REQUIRED TO COVER BEHAVIORAL COUNSELING AND FDA APPROVED PHARMACOLOGIC THERAPY FOR SMOKING CESSATION. THIS CAN MAKE THESE METHODS MUCH MORE COST EFFECTIVE THAN E-CIGARETTES. ACCORDING TO BLU E-CIGARETTES™, THE ANNUAL COST FOR SOMEONE WHO SMOKED A PACK A DAY IS \$730, AND \$1,825 FOR DISPOSABLES. THE CO-PAYMENT FOR NICOTINE REPLACEMENT, VARENICLINE OR BUPROPION UNDER VERMONT MEDICAID IS \$1-3.

COMMUNITY PERSPECTIVE

**Ginger Cloud, MS, LCMHC,
LADC
SiMH Project Manager**

“Tobacco users are our biggest utilizing population” for substance abuse intervention through the SBIRT program in Vermont.

“There is a problem around awareness and education” among providers about e-cigarettes.

“I think this project is a great idea.”

**Jennifer Sanborn
SBIRT counselor in Central
Vermont**

“There is a lot of misinformation among providers about e-cigarettes.” It is unfortunate that even though there are effective methods of smoking cessation, some providers still tell their patients that it is ok to use e-cigarettes.

INTERVENTION

- MANY EFFORTS HAVE ALREADY BEEN MADE IN THE COMMUNITY TO EDUCATE BOTH PATIENTS AND PROVIDERS ABOUT SMOKING CESSATION. THIS PROJECT IDENTIFIED A KNOWLEDGE GAP ABOUT E-CIGARETTES THAT I HOPE TO RESOLVE BY CREATING AND DISTRIBUTING A FACT SHEET FOR PROVIDERS ABOUT CURRENT RESEARCH AND RECOMMENDATIONS. I COMPILED THIS FACT SHEET BY CONDUCTING A LITERATURE SEARCH AND HIGHLIGHTING THE MOST CONCISE, SALIENT POINTS. THE EDUCATIONAL MATERIAL CAN BE KEPT IN PATIENT ROOMS AND GUIDE PATIENT-PROVIDER CONVERSATIONS.
- I DISTRIBUTED THIS FACT SHEET TO ALL OF THE CENTRAL VERMONT PRIMARY CARE MEDICAL GROUP PRACTICES THROUGH THE MAIL. I ALSO EMAILED A SOFT COPY TO EACH PROVIDER WITH CONTACT INFORMATION BOTH FOR MYSELF AND FOR SBIRT SERVICES. IN TOTAL, I PROVIDED MATERIALS TO 73 PROVIDERS AT 12 DIFFERENT PRACTICES.
- SINCE A SIGNIFICANT ARM OF THIS PROJECT IS EDUCATION ABOUT E-CIGARETTE USE AMONG YOUTH, I ALSO CREATED A FLYER ENTITLED “TEENS AND E-CIGARETTES” TO BE DISPLAYED IN THE TWO PEDIATRIC OFFICES.

RESULTS

- 73 PROVIDERS AT 12 PRIMARY CARE MEDICAL HOMES NOW HAVE A QUICK REFERENCE SHEET ABOUT E-CIGARETTES SO THAT THEY CAN ACCURATELY EDUCATE THEIR PATIENTS.
- THE 2 PEDIATRIC PRACTICES NOW HAVE AN EYE-CATCHING, EASY-TO-READ FLYER DISPLAYED IN THEIR OFFICES FOR TEENS TO LEARN ABOUT E-CIGARETTES.
- PROVIDER RESPONSE HAS BEEN OVERWHELMINGLY SUPPORTIVE. ONE OF THE PROVIDERS IN WATERBURY ACKNOWLEDGED “THIS WILL BE REALLY HELPFUL WHEN TALKING TO PATIENTS.”
- THIS IS A RELATIVELY NEW AREA IN HEALTHCARE WHERE THERE PREVIOUSLY WAS MINIMAL INFORMATION. WHILE SEMINARS AND WEBINARS ON E-CIGARETTES EXIST, MANY PROVIDERS ARE UNABLE TO COMPLETE THEM DUE TO TIME CONSTRAINTS. THIS FACT SHEET IS A MUCH MORE TIME EFFECTIVE WAY TO CONVEY CURRENT RESEARCH AND RECOMMENDATIONS.

RESULTS



E-Cigarettes: What Primary Care Providers Need to Know

E-cigarettes are gaining in popularity, and many people believe that they can aid in smoking cessation. This opinion, however, is in conflict with the Vermont Department of Health, American College of Physicians, American Academy of Family Physicians, and many other reputable organizations. The US Preventative Services Task force recommends that due to the unregulated nature of e-cigarettes and insufficient evidence of efficacy, patients should be directed towards other smoking cessation interventions with established efficacy and safety.

Additionally, e-cigarette use has boomed among youth, exposing them to nicotine addiction and an increased risk of conventional cigarette addiction. When discussing substance use with teenagers, it is important to ask about e-cigarettes and provide education about them.

E-cigarette research overview:

- Nicotine levels advertised on e-cigarette packaging have been found to be inconsistent with levels detected via chemical analysis. Additionally, cartridges labeled "nicotine-free" have been found to contain nicotine.¹
- E-cigarettes contain propylene glycol and glycerin which decompose to form the carcinogens formaldehyde and acetaldehyde.²
- The number of calls to poison control centers due to e-cigarettes has increased from 2010 to 2014, and the most common adverse health effects were vomiting, nausea and eye irritation.³
- There is conflicting evidence on whether or not e-cigarettes can aid smoking cessation, while multiple evidence-based approaches already exist. Pharmacotherapy (nicotine replacement therapy, varenicline and bupropion) and behavioral therapy are each individually shown to help people quit smoking. In a review of 53 studies, combined pharmacotherapy and behavioral interventions provide increased success in cessation.⁴
- US insurance companies are required to cover behavioral counseling and FDA approved pharmacologic therapy for smoking cessation. This coverage can make these methods much more cost effective than e-cigarettes. According to blu e-cigarettes™, the annual cost of their e-cigarettes for someone with a pack a day habit is \$730, and \$1,825 for disposables. The co-payment for nicotine replacement, varenicline or bupropion under Vermont Medicaid is \$1-3.

E-cigarettes and teens:

- Across the country, youth e-cigarette use increased nine-fold from 2011-2014, from 1.5% to 13.4% according to the CDC.⁵
- In 2015, 30% of Vermont high school students reported trying e-cigarettes.⁶
- E-cigarette use is associated with an increased risk of conventional cigarette use among youth. It does not discourage conventional cigarette use among US teens.⁷

Questions? Contact Jennifer Albert at jsalbert@med.uvm.edu.

For information about Screening, Brief Intervention, and Referral to Treatment (SBIRT), please contact Ginger Cloud, MS, LCMHC, LADC at (802) 225-5685.

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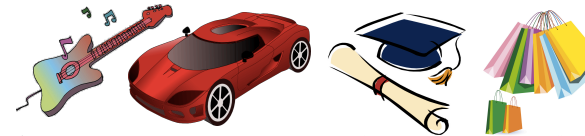
E-cigarettes and Teens: What's the Big Deal?

- By multiple measures, nicotine is one of the most addicting drugs out there ¹
- Youth who use e-cigarettes are at an increased risk of smoking regular cigarettes ²
- E-cigarettes can irritate the lungs and cause inflammation, just like regular cigarettes ³
- Increasing number of calls to poison control centers because of e-cigarette use—most commonly due to vomiting, nausea and eye irritation ⁴
- Chemicals in vapor may cause cancer ⁵

Aren't there better things you can spend your money on?

- Yearly cost of blu disposables=\$1,825, and the newly proposed VT tax will double this!

Wouldn't you rather put your money towards:



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EVALUATION OF EFFECTIVENESS AND LIMITATIONS

- THIS FACT SHEET AND FLYER ADDRESS THE KNOWLEDGE GAP AROUND E-CIGARETTES. I HOPE THAT THEY LEAD TO GREATER UNDERSTANDING ABOUT THE ISSUE AND ENCOURAGE SUCCESSFUL PATIENT-PROVIDER CONVERSATIONS ABOUT SMOKING CESSATION.
- ONE LIMITATION IS THAT THIS IS AN EVER-EVOLVING AREA OF RESEARCH, AND AS WE LEARN MORE THE FACT SHEETS WILL NEED TO BE UPDATED.
- THE INFORMATION WILL NOT REACH PATIENTS UNLESS THEY COME IN TO SEE THEIR DOCTORS. MANY OTHERWISE HEALTHY YOUNG ADULTS VISIT THE DOCTOR INFREQUENTLY, MAKING INTERVENTION DIFFICULT.
- ANOTHER LIMITATION OF THIS PROJECT IS THE LACK OF A PRE-INTERVENTION SURVEY TO QUANTITATIVELY ASSESS PROVIDER KNOWLEDGE BEFORE DISTRIBUTION OF THE FACT SHEET.
- A POST-INTERVENTION SURVEY EMAILED TO THE 73 PROVIDERS WOULD PROVIDE DATA TO EVALUATE WHETHER OR NOT THEY UTILIZED THESE EDUCATIONAL MATERIALS. DUE TO TIME CONSTRAINTS, THIS SURVEY TO EVALUATE EFFECTIVENESS WAS NOT PERFORMED.

RECOMMENDATIONS

- PROVIDER EDUCATION WOULD BE FURTHER INCREASED BY DISTRIBUTING MATERIALS TO PRIMARY CARE PRACTICES THROUGHOUT THE STATE.
- E-CIGARETTE INFORMATION FOR TEENS AND YOUNG ADULTS SHOULD EXPAND OUTSIDE THE DOCTOR'S OFFICE TO PLACES THEY FREQUENT— SCHOOLS, SHOPS, ETC.
- REGULARLY ASKING ABOUT E-CIGARETTES WHEN TALKING WITH PATIENTS ABOUT SUBSTANCE USE WILL ALLOW FOR GREATER OPPORTUNITIES FOR PATIENT EDUCATION.
- ONCE FDA REGULATIONS ON E-CIGARETTES ARE FULLY ENACTED, THEY MAY BECOME A MORE LEGITIMATE METHOD FOR SMOKING CESSATION. IN ORDER TO BETTER UNDERSTAND BOTH THEIR SAFETY AND EFFICACY, LARGE, RANDOMIZED TRIALS ARE NEEDED. UNTIL THEN, EFFORTS SHOULD BE MADE TO INCREASE ACCESS TO EVIDENCE-BASED TREATMENTS FOR CESSATION THAT INCLUDE NICOTINE REPLACEMENT THERAPY, VARENICLINE AND BUPROPION.

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