

# Susceptibility To Electronic Cigarette Use Among Current Nonsmokers

Robert McMillen, PhD<sup>1,2</sup>, Tanski, Susanne<sup>2,3</sup>, Karen Wilson, MD, MPH<sup>2,4</sup>, Regina Whitmore Shaefer, MPH<sup>2</sup>, Jonathan D. Klein, MD, MPH<sup>2</sup>

Jonathan P. Winickoff, MD, MPH<sup>2,5</sup>

<sup>1</sup>Mississippi State University; <sup>2</sup>AAP Julius B. Richmond Center of Excellence; <sup>3</sup>Norris Cotton Cancer Center, The Geisel School of Medicine at Dartmouth; <sup>4</sup>Children's Hospital Colorado and the University of Colorado, Denver School of Medicine; <sup>5</sup>Massachusetts General Hospital for Children;

AMERICAN ACADEMY OF PEDIATRICS  
Julius B. Richmond  
Center of Excellence

## Presenter Disclosures

Robert McMillen

No relationships to disclose.

AMERICAN ACADEMY OF PEDIATRICS  
Julius B. Richmond  
Center of Excellence

## Support

- Flight Attendant Medical Research Institute through a grant to the American Academy of Pediatrics Julius B. Richmond Center of Excellence
- Legacy

## Background: Trends in Electronic Cigarette Use

	<b>2010</b> n = 3,240 % (95% CI)	<b>2011</b> n = 3,059 % (95% CI)	<b>2012</b> N=3,101 % (95% CI)	<b>2013</b> N=3,245 % (95% CI)
<b>Ever Use</b>	<b>1.8</b> <b>(1.3-2.3)</b>	<b>7.3</b> <b>(6.4-8.2)</b>	<b>10.6</b> <b>(9.5-11.7)</b>	<b>13.0</b> <b>(11.8-14.)</b>
<b>Current Use</b>	<b>0.3</b> <b>(0.1-0.5)</b>	<b>0.8</b> <b>(0.5-1.1)</b>	<b>2.6</b> <b>(2.0-3.2)</b>	<b>6.8</b> <b>(5.9-7.7)</b>

## Background: Electronic Cigarette Use, 2013

	Never Smokers % (95% CI)	Former Smokers % (95% CI)	Nondaily Smokers % (95% CI)	Daily Smokers % (95% CI)
<b>Ever Use</b>	<b>3.5</b> (2.7-4.3)	<b>13.5</b> (11.1-15.9)	<b>47.0</b> (38.5-55.5)	<b>54.2</b> (48.7-59.7)
<b>Current Use</b>	<b>1.4</b> (0.9-1.9)	<b>5.4</b> (3.8-7.0)	<b>34.1</b> (26.0-42.2)	<b>30.3</b> (25.2-35.4)

## Background:

- Among all current electronic cigarette users
- 12.6% are never smokers
- 19.9% are former smokers
  - 5.8% are former smokers who quit before 2007
- Somewhere between 18.4% & 32.5% of current electronic cigarette users were not smoking combustible cigarettes when they initiated use

## Methods

- Administered Fall 2013
- Random Digit Dial Landline Frame
  - Survey Research Laboratory at the Social Science Research Center, Mississippi State University
- Probability-based Internet Panel
  - GfK: Panel members were recruited by probability-based sampling, and households were provided with access to the Internet and hardware if needed

## Results

- RDD Landline
  - N= 1,552
  - Co-operation rate, 91.9%
- Probability-based Internet Panel
  - N=1,693
  - Final completion rate, 63.5%
  - Length of time on the panel ranged from 44 days to 14 years, median time on panel was 2.2 years

## Results

- 85.7 of adults have never tried an e-cigarette
  - Never smokers (n = 1,438)
  - Former Smokers (n = 618)

## Susceptible to E-Cigarettes

- Never smokers: 6.7%
  - Former smokers: 13.9%
    - $p < .05$
- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• Never smokers               <ul style="list-style-type: none"> <li>• 18-24: 17.7%</li> <li>• 25-44: 6.5%</li> <li>• 45-64: 4.4%</li> <li>• 65+: 1.8%</li> <li>• <math>p &lt; .05</math></li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• Former smokers               <ul style="list-style-type: none"> <li>• 18-24: 47.4%</li> <li>• 25-44: 21.4%</li> <li>• 45-64: 11.1%</li> <li>• 65+: 5.8%</li> <li>• <math>p &lt; .05</math></li> </ul> </li> </ul> |
|---|--|

## Susceptible to E-Cigarettes

- Have seen an e-cigarette ad: 17.4%
- Have not: 12.5%
- $p < .05$
- 18-24: 28.2% v. 16.2%, ns
- 25-44: 20.3% v. 11.8%,  $p = .007$
- 45-64: 15.1% v. 14.5%, ns
- 65+: 9.6% v 5.5%, ns

## Discussion

- Over 20% of young adult never and former smokers who have never tried e-cigarettes are susceptible to using them in the future.
- The substantial number of vulnerable young adult nonsmokers illustrates the imperative for sales and marketing regulation to protect nonsmokers from being recruited to e-cigarette use and possible nicotine addiction.
- Until the risks of e-cigarettes are better defined, it is irresponsible to allow an unrestrained industry to encourage uptake of a potentially hazardous product.

## Limitations

- Self-report, cross-sectional data
- Non-validated modification of Pierce's Susceptibility to Smoking variables

## Questions?

*Minh-Tri 1<sup>st</sup> Place  
winner, FAMRI/  
AAP/Richmond  
Center Art Contest  
2010*

