The Changing Landscape of Tobacco Products

State of the Science: Research in Tobacco Cessation, Products and Policy

A Multi-Institutional Collaboration

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Youth Cigarette Smoking 1999-2017 in North Carolina

Cigarette Use in Past 30 Days, NC YTS

PERCENTAGE OF STUDENTS

1999 2001 2003 2005 2007 2009 2011 2013 2015 2017
15.0 11.3 9.3 5.8 4.5 4.3 4.2 2.5 2.3 2.5

High School

Middle School

2017 NORTH CAROLINA YOUTH TOBACCO SURVEY RESULTS
Overall Youth Tobacco Use 1999-2017 in North Carolina

Use of Any Tobacco Product in Past 30 Days, NC YTS

PERCENTAGE OF STUDENTS

1999 2001 2003 2005 2007 2009 2011 2013 2015 2017

High School

Middle School

2017 North Carolina Youth Tobacco Survey Results
### E-cigarettes Are the #1 Tobacco Product Used by Youth

#### Use of Tobacco Products in Past 30 Days, NC YTS 2017

<table>
<thead>
<tr>
<th>Product</th>
<th>Middle School</th>
<th>High School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Snus</td>
<td>0.8</td>
<td>3.7</td>
</tr>
<tr>
<td>Roll-your-own cigarettes</td>
<td>2.0</td>
<td>3.4</td>
</tr>
<tr>
<td>Hookah</td>
<td>2.5</td>
<td>4.5</td>
</tr>
<tr>
<td>Chewing tobacco/snuff/dip</td>
<td>2.3</td>
<td>6.3</td>
</tr>
<tr>
<td>Cigarettes</td>
<td>2.5</td>
<td>8.9</td>
</tr>
<tr>
<td>Cigars/cigarillos/little cigars</td>
<td>3.8</td>
<td>12.7</td>
</tr>
<tr>
<td><strong>E-cigarettes</strong></td>
<td>5.3</td>
<td><strong>16.9</strong></td>
</tr>
</tbody>
</table>

2017 NORTH CAROLINA YOUTH TOBACCO SURVEY RESULTS
Between 2011-2017 Current Youth Use of E-Cigarettes Increased:

430% \(\uparrow\) Middle School

894% \(\uparrow\) High School

In 2017 more students said they were considering using e-cigarettes in the next year than currently used them.
YOUTH E-CIGARETTE USE INCREASED 78% IN 2018

Percent of high schoolers who report using e-cigarettes in the past 30 days

Source: CDC, National Youth Tobacco Survey (NYTS)

- Any Tobacco Product: 24.2% in 2011, 27.1% in 2018
- Combustible Tobacco: 21.8% in 2011, 20.8% in 2018
- Cigarettes: 15.8% in 2011, 13.9% in 2018
- ≥2 Tobacco Products: 12.0% in 2011, 11.3% in 2018
- Cigars: 11.6% in 2011, 8.1% in 2018
- Smokeless Tobacco: 7.9% in 2011, 5.9% in 2018
- Hookah: 4.1% in 2011, 4.1% in 2018
- Pipe: 4.0% in 2011, 4.0% in 2018
- E-cigarettes: 1.5% in 2011, 1.1% in 2018

Image source: Dr. Andrea Gentzke, CDC OSH
U.S. Middle School Students: Trends in Tobacco Product Use, 2011-2018

Any Tobacco Product: 7.5%
Combustible Tobacco: 6.4%
Cigarettes: 4.3%
≥2 Tobacco Products: 3.8%
Cigars: 3.5%
Smokeless Tobacco: 2.7%
Pipe: 2.2%
Hookah: 1.0%
E-cigarettes: 0.6%
JUUL & THE GUINEA PIG GENERATION
Public Health Concerns about Use by Young People

JUUL. The recent rapid rise in popularity of this
The American Cancer Society and National Cancer Institute acknowledge that e-cigarettes may be less dangerous than conventional cigarettes, but they stress that using e-cigarettes is not safe and the long-term health effects still aren't known.

The public health community fears that this message is getting lost amid e-cigarettes skyrocketing popularity, especially among youth and young adults.
Perceptions of Harmfulness of Using E-cigarettes Regularly

Monitoring the Future 2014-2018

Percentage saying great risk

- 10th Grade
- 12th Grade
- 8th Grade

2014 2015 2016 2017 2018
Tobacco Control Vaccine

100% Smoke-Free/Tobacco-free Policies

Easy Access to Effective Tobacco treatment

Funding, Price Increases and Tobacco 21

Hard Hitting and Helpful Media Campaigns

Research Questions

Continue research on the how marketing strategies of e-cigarette companies impact youth and adult tobacco use.

Expand research on the short-term and long-term use of flavored e-cigarettes.

Continue research on the short-term and long-term health effects of propylene glycol, vegetable glycerin, fine and ultrafine particles, and heavy metals being inhaled deeply in the lungs.

Continue research on studying indoor air quality and biomarkers for secondhand aerosol along with more exposure survey data.
Research Questions (cont.)

Enhance studies on the health effects of e-cigarette use by **product characteristics**, including type of design, e-liquid used and pattern of use.

Conduct studies on the relevant interactions between **high nicotine content** and other ingredients in e-cigarettes.

Initiate N.C. population-based **cohort studies to enhance quality and quantity of information** on e-cigarette use among youth and young adults.

Collect current N.C. survey data on tobacco use by type among college students.

Expand studies on **tobacco use treatment** among youth and young adults.

Create **studies on Tobacco 21**; comparing effectiveness with strength of the law.