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## Background

### Smokeless tobacco use among North Carolina (NC) students:

- No significant decrease in smokeless tobacco (SLT) use between 1999 and 2009 for NC middle and high school students
- Multiple forms of tobacco use strongly relate to one another

### Snus and other new smokeless tobacco products marketed in way that may appeal to youth:<sup>1</sup>

- Packaging resembles gum or candy; one survey of teens found 42% mistook Camel Orbs for candy<sup>2</sup>
- Snus marketed as alternative to cigarettes in situations where smoking is not allowed

### 2009 North Carolina Youth Tobacco Survey (NCYTS):

- Included question to assess student awareness and perceptions of Snus and other new smokeless tobacco products: "Which of the following best describes what you think about new smokeless tobacco products such as snus, orbs, and strips?"
- First effort to measure perceptions as part of statewide surveillance

## Methods

### Data from the 2009 North Carolina Youth Tobacco Survey:

- Biannual school-based paper survey of students in grades 6-12
- Participation voluntary and anonymous; school parental permission procedures followed
- Multi-stage cluster sample design with corresponding sampling weights to produce representative middle (grades 6-8) and high (grades 9-12) school data
- High overall response rates for middle (80.3%) and high (79.2%) schools, with a total of 3,805 middle and 3,301 high school students

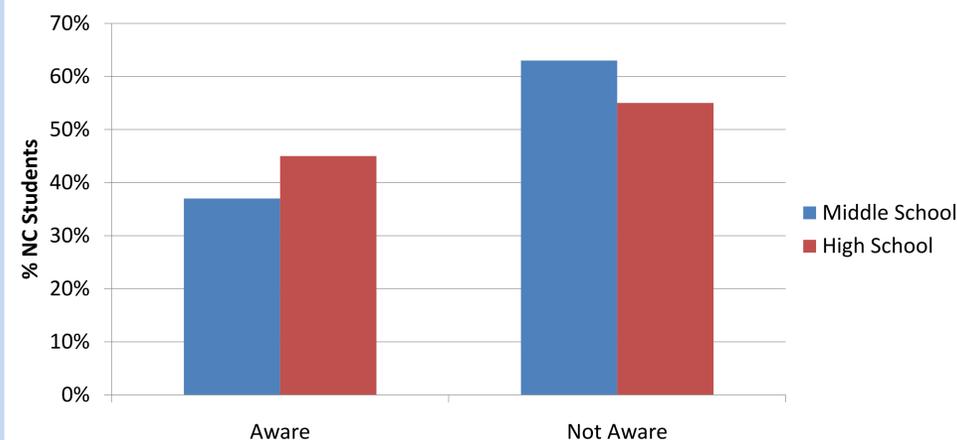
### Data analysis:

- Data analyzed using SAS survey procedures
- Chi square analyses to highlight differences in risk perception of new SLT products among middle and high school students



## Results

### Awareness of New SLT Products



### Among students who have heard about new smokeless tobacco products:

- 31.5% of middle school students consider new SLT products **less** risky than traditional smokeless tobacco products
- 28.6% of high school students consider new SLT products **less** risky than traditional smokeless tobacco products
- 9% of both middle and high school students consider new SLT products **more** risky than traditional smokeless tobacco products

Table 1. Perceived Risk of New SLT Products Among NC Middle School Students

	Percent answering "Somewhat Less Risky"	95% CI
Ever Smoked a Cigarette*	Yes	43.96% (38.93%, 48.98%)
	No	25.27% (21.39%, 29.15%)
Susceptible to Smoking*	Yes	38.38% (31.97%, 44.79%)
	No	23.79% (19.88%, 27.71%)

Note. CI = confidence interval; \* Significant difference at  $p < .01$

Table 2. Perceived Risk of New SLT Products Among NC High School Students

	Percent answering "Somewhat Less Risky"	95% CI
Ever Smoked a Cigarette*	Yes	32.70% (28.17%, 37.24%)
	No	22.65% (18.21%, 27.09%)
Ever Used Smokeless Tobacco*	Yes	39.70% (34.08%, 45.32%)
	No	23.12% (20.01%, 26.24%)
Susceptible to Smoking*	Yes	36.99% (32.51%, 41.47%)
	No	18.23% (14.00%, 22.46%)

Note. CI = confidence interval; \* Significant difference at  $p < .01$

## Conclusions and Recommendations

- Marketing of new SLT products reaching youth in NC
- With continued promotion, likely increased youth awareness of new SLT products
- Potential for new SLT product use as gateway to other tobacco use for current non-users
- High potential of dual use of cigarettes and new SLT products among students currently using or susceptible to tobacco
- Dual use creates additional barrier to quitting tobacco use
- Despite lack of consensus around new SLT products as harm reduction strategy,<sup>1,3</sup> tobacco prevention programs must address marketing and potential risks associated with new SLT products

## Limitations

- Descriptive results from a cross-sectional survey preclude conclusions about causality
- Self-reported data are subject to honesty of student respondents
- Results are specific to North Carolina and may not generalize to youth in other locales



## References

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  3. Gartner CE, Hall WD, Vos T, et al. Assessment of Swedish snus for tobacco harm reduction: an epidemiological modeling study. *Lancet* 2007;369:2010e14.
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