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Background

- E-cigarettes appear to play a substantial role in clinical tobacco dependence treatment even though they are not approved or recommended by the FDA.
- Increasing utilization of e-cigarettes by the patient community may have profound implications for tobacco use treatment and potential for FDA regulation.
- The University of North Carolina Tobacco Prevention and Evaluation Program (TPEP) surveyed North Carolina (NC) physicians to assess their awareness, attitudes and behaviors related to tobacco use cessation treatment, including their beliefs about electronic cigarettes (e-cigarettes).

Methods

- Random sample of NC physicians selected to participate.
- TPEP contracted with a direct marketing company with access to the national American Medical Association mailing list.
- Stratified list by specialty.
- July 2013, emails to 787 physicians (156 family physicians, 161 internal medicine physicians, 159 obstetricians/gynecologists, 160 psychiatrists, and 151 surgeons) three different waves of email invitations.
- 14 addresses invalid or returned, 413 opened, and 128 responded (response rate = 31%).
- Data were analyzed using SPSS.
- Statistics generated include percentages, χ^2 Test of Independence and logistic regression, with statistical significance set at $\alpha = .05$.
- UNC Biomedical Institutional Review Board (#13-2566).

Table 1. Respondent Demographic Characteristics

Gender		
Female		40%
Male		60%
Race		
Caucasian		65%
Other		24%
Did Not Respond		11%
Age		
25-34		14%
35-44		34%
45-54		31%
>54		21%

Results

- Most respondents were male, non-smokers or ex-smokers, worked for at least 10 years in the field, and were very active in clinical medicine (N=122).
- Most used electronic health records and almost two-thirds screened for tobacco with vital signs.

Figure 1. Attitudes of Physicians about E-Cigarettes

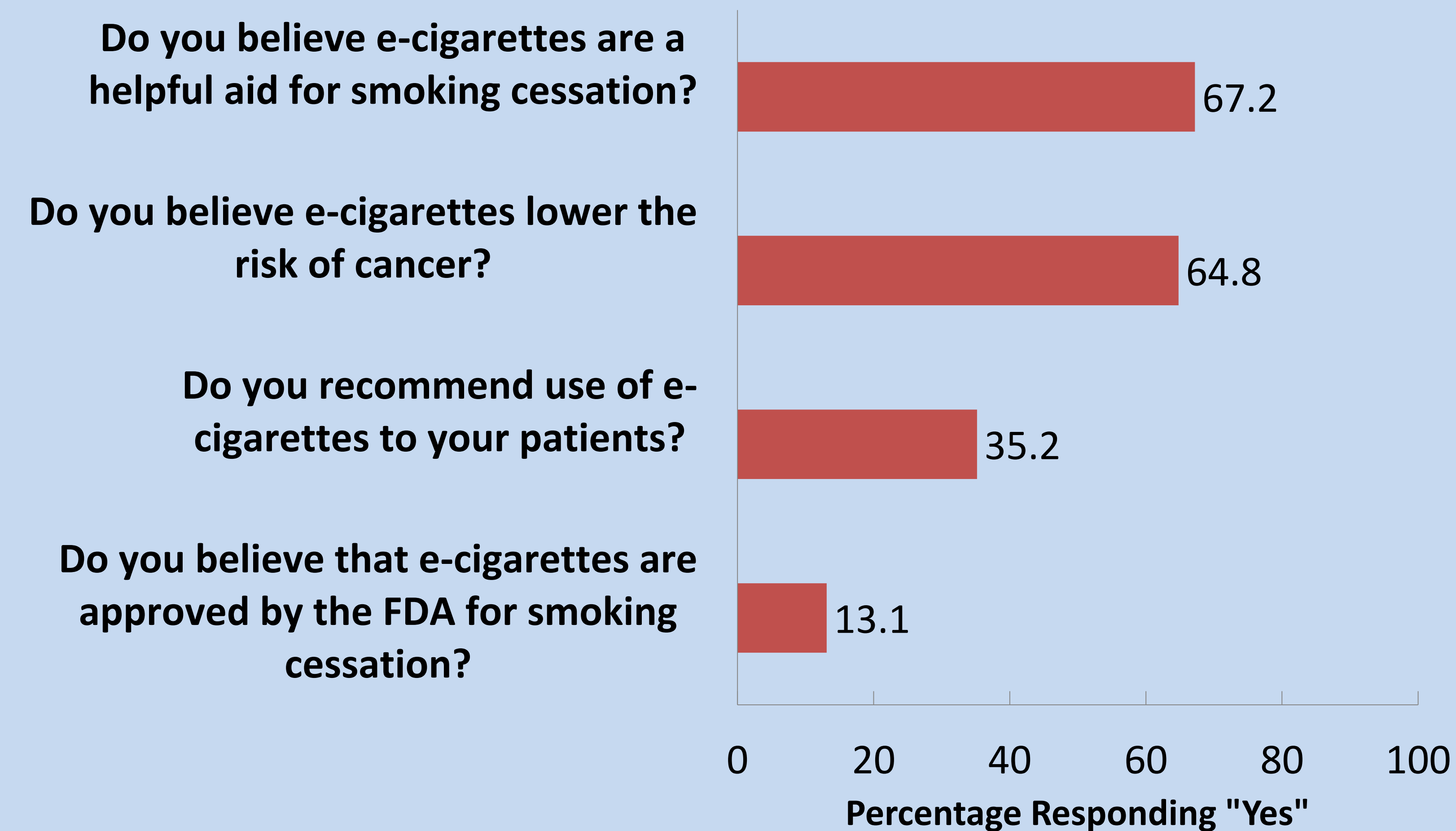


Figure 2. Frequency with Which Patients Ask Physicians About E-Cigarettes

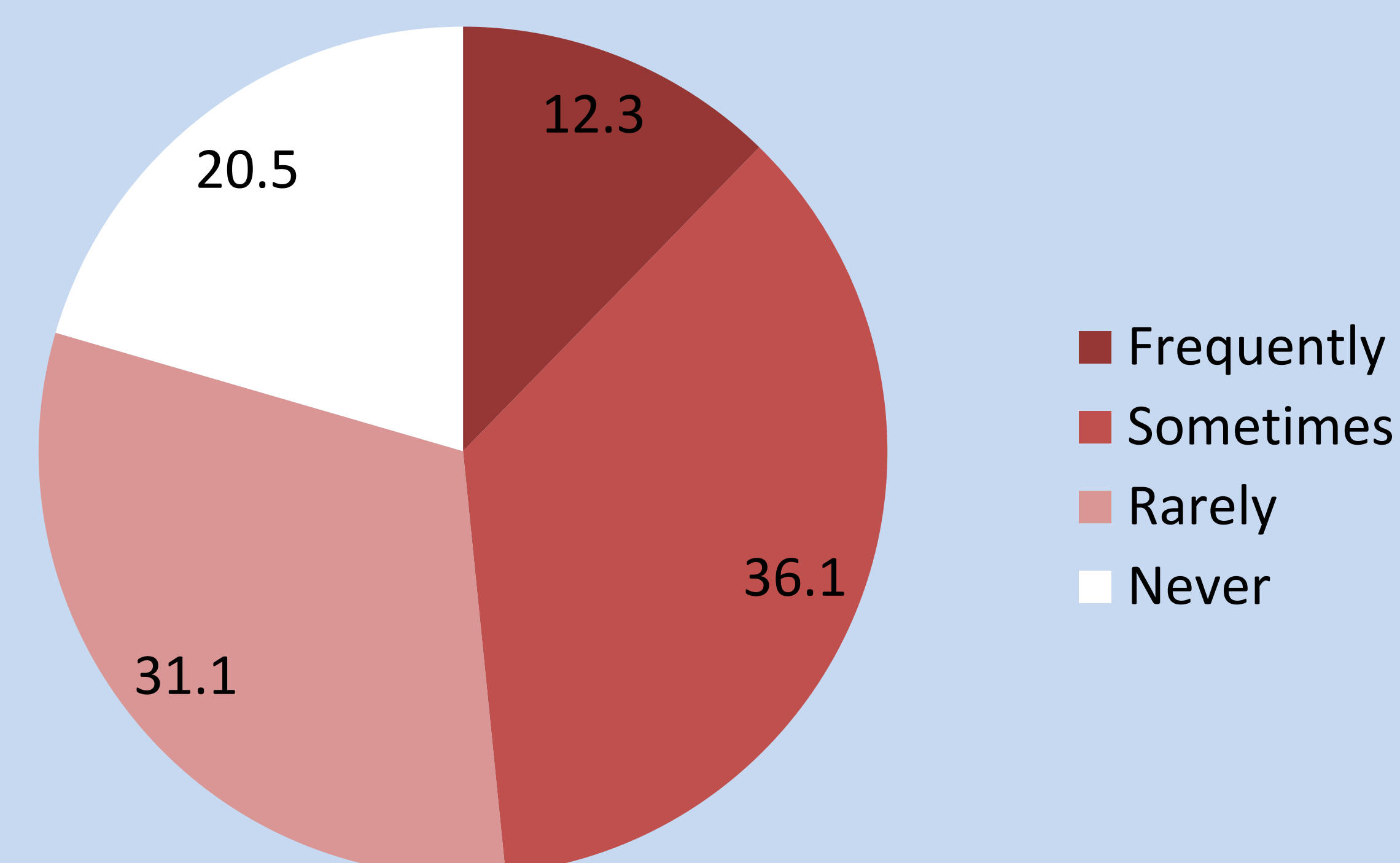


Table 2. Regression Model Variables and Odds Ratios: "Do you recommend use of e-cigarettes to your patients?"

Significant Variables	degrees of freedom	Significance Value	Odds Ratio
Provider Age (reference = Younger)	1	0.021	3.11
Belief that e-cigarettes lower the risk of cancer	1	0.001	6.82
Frequency which patients ask about e-cigarettes	1	0.001	2.47
Providers who document tobacco treatment counseling	1	0.022	3.32

Limitations

- Results are specific to physicians in NC and may not generalize
- Response rate is relatively low, though 31% on email survey of physicians is excellent.
- Potential for non-response bias.

Conclusions

- There is an absence of evidence regarding the health impact of e-cigarettes; however, e-cigarettes are being recommended to patients by up to one-third of NC physicians.
- When their patients inquire about them or the physicians believe e-cigarettes are a safer choice than standard cigarettes, recommendations increase
- Most physicians correctly believed e-cigarettes are **not** FDA approved.
- Results suggest the FDA needs to critically review the current evidence on e-cigarettes and provide clear guidance about e-cigarettes and tobacco cessation.

Figure 3. Electronic Cigarette

