

# An exploration into the attitudes of dual-users (of e-cigarettes and tobacco cigarettes)

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## INTRODUCTION

Smoking is the single largest cause of preventable illness and premature death, responsible for approximately 80,000 deaths a year in England<sup>1</sup>. It is in this context that smoking cessation is regarded as one of the most effective public health interventions.

Until recently, the main tools for smoking cessation have been behavioural support, nicotine replacement therapy, or oral bupropion or varenicline. However, e-cigarette use is becoming more popular and is currently considered one of the most effective quitting aids in England<sup>2</sup>.

Whilst smoking prevalence in England has decreased significantly (from 19.3% in 2012 to 15.5% in 2016)<sup>3</sup>, e-cigarette usage has increased substantially in recent years, an estimated 6% of the population (as a whole) are currently e-cigarette users<sup>4</sup>.

Research has suggested that concurrent use of tobacco cigarettes and e-cigarettes (dual usage) can potentially either facilitate or inhibit smoking cessation. This study aimed to examine the attitudes of dual users concerning their smoking and vaping behaviours compared to current smokers, e-cigarette users and others in a UK context.

## METHODS

A secondary analysis of existing survey data from the ONS' Opinions and Lifestyle survey between May 2016 and February 2017 was undertaken.

'Smoking status' and 'e-cigarette usage' were variables constructed and based on the responses to three survey questions:

- Do you smoke (tobacco) cigarettes at all nowadays?
- Have you ever smoked a cigarette, cigar or pipe?
- Have you ever used an electronic cigarette (e-cigarette)?

Each respondent was then assigned to a group as shown in Figure 1.

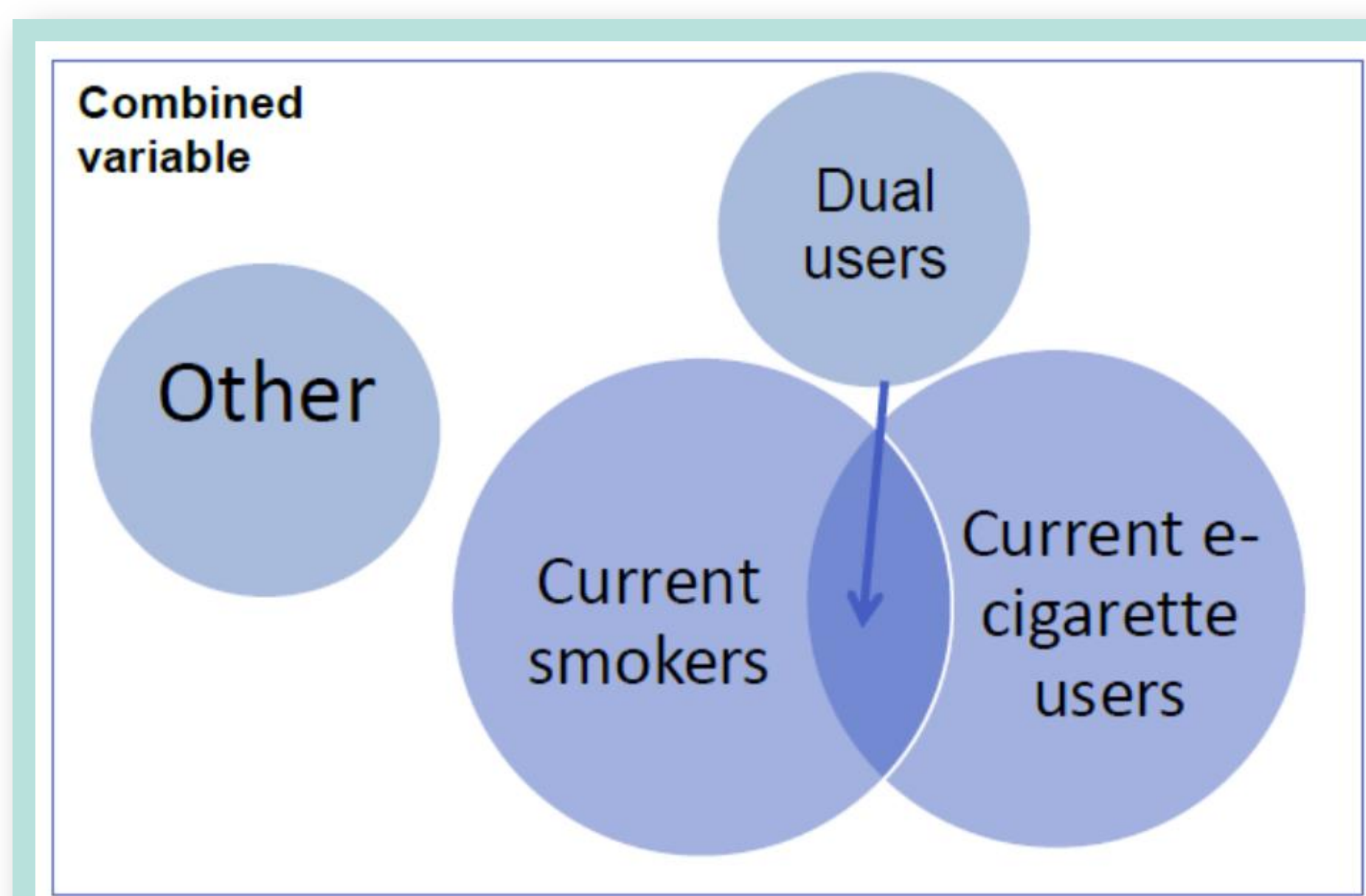


Figure 1. Illustration of groups used in analysis.

We examined the following questions and observed the differences in response between groups:

- Would you like to give up smoking altogether?
- Which of the following statements best reflects your expectations about your future use of e-cigarettes?
- What effect do you think e-cigarettes have on their users?
- What impact do you think e-cigarettes have on the health of others who may be exposed to them but do not use them directly?
- To what extent do you think that the sale and use of e-cigarettes should be regulated?

## RESULTS

There were 166 respondents identified as dual users (people who smoke and vape) in the survey sample used, compared with 960 smokers (cigarettes only) and 195 current e-cigarette users (e-cigarettes only).

Of the respondents who currently smoke cigarettes, the group of dual users had a higher proportion with the intention to quit smoking (69.3% compared with 56.6% of those that only smoked cigarettes) (see table 1). This association was statistically significantly different (chi-squared test  $p < 0.01$ ).

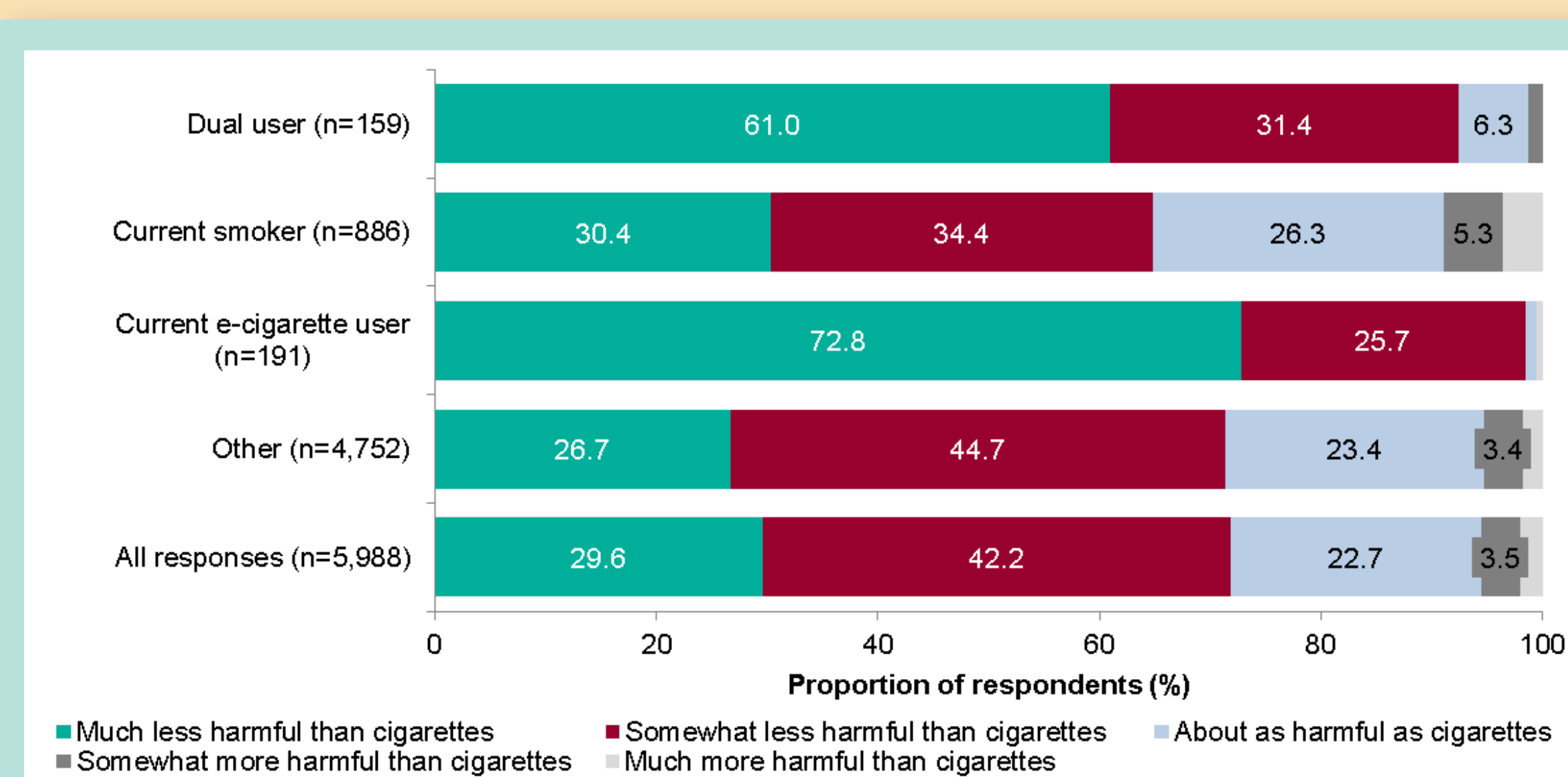


Figure 2: Perception of harm of e-cigarettes to users, by user type

There is a large contrast in the opinions of vapers and non-vapers regarding the harm of e-cigarettes to other people (Figure 3).

The highest proportion of respondents believing there was no impact on others was seen in the e-cigarette only users (86.4%), with 78% of dual users believing there was no impact on others and 61% of smokers.

Almost half of non-smokers and non-vapers believed that e-cigarettes had a damaging impact on others (48.2%), which is four times the proportion of e-cigarette users with the same belief (12%).

Overall only small proportions in each group believed e-cigarettes had a beneficial impact on others (3.4% for all categories combined, ranging from 1.6% in e-cigarette only users to 4.5% in smokers).

Variable	Category	Some regulation (%)	No regulation (%)	Not enough evidence to decide (%)	Chi-squared value (p-value)
Combined variable (n=6,383)	Dual user (n=165)	35 (21.2%)	123 (74.5%)	7 (4.2%)	99.2 (p<0.01)
	Current smoker (n=947)	138 (14.6%)	733 (77.4%)	76 (8.0%)	
	Current e-cigarette user (n=193)	30 (15.5%)	155 (80.3%)	8 (4.1%)	
	Other (n=5,078)	370 (7.3%)	4,319 (85.1%)	389 (7.7%)	

Table 2 : Attitudes towards e-cigarette regulation, by user type

Category	No intention to quit/unsure (%)	Intention to quit (%)	Chi-squared value (p-value)
Dual user (n=166)	51 (30.7)	115 (69.3)	9.42 (p<0.01)
Current tobacco smoker (n=960)	417 (43.4)	543 (56.6)	

Table 1: Intention to quit smoking cigarettes, by user type

The survey responses also demonstrate a difference between the attitudes towards the harm caused by e-cigarettes dependent upon the respondent's current smoking and vaping status.

Almost all of current e-cigarette users (98.5%) believe that e-cigarettes are less harmful than cigarettes. This was also demonstrated in dual users (92.4%) and compares with 64.8% of cigarette only smokers, where a quarter of respondents believed that e-cigarettes were 'about as harmful as cigarettes'. Interestingly this is similar to the responses of people who do not smoke or vape ('other' category shown in Figure 2).

Around 9% of current smokers believe that e-cigarettes are more harmful than cigarettes, compared with 5.3% of non-smokers/non-vapers, 1.3% of dual users and 0.5% of vapers.

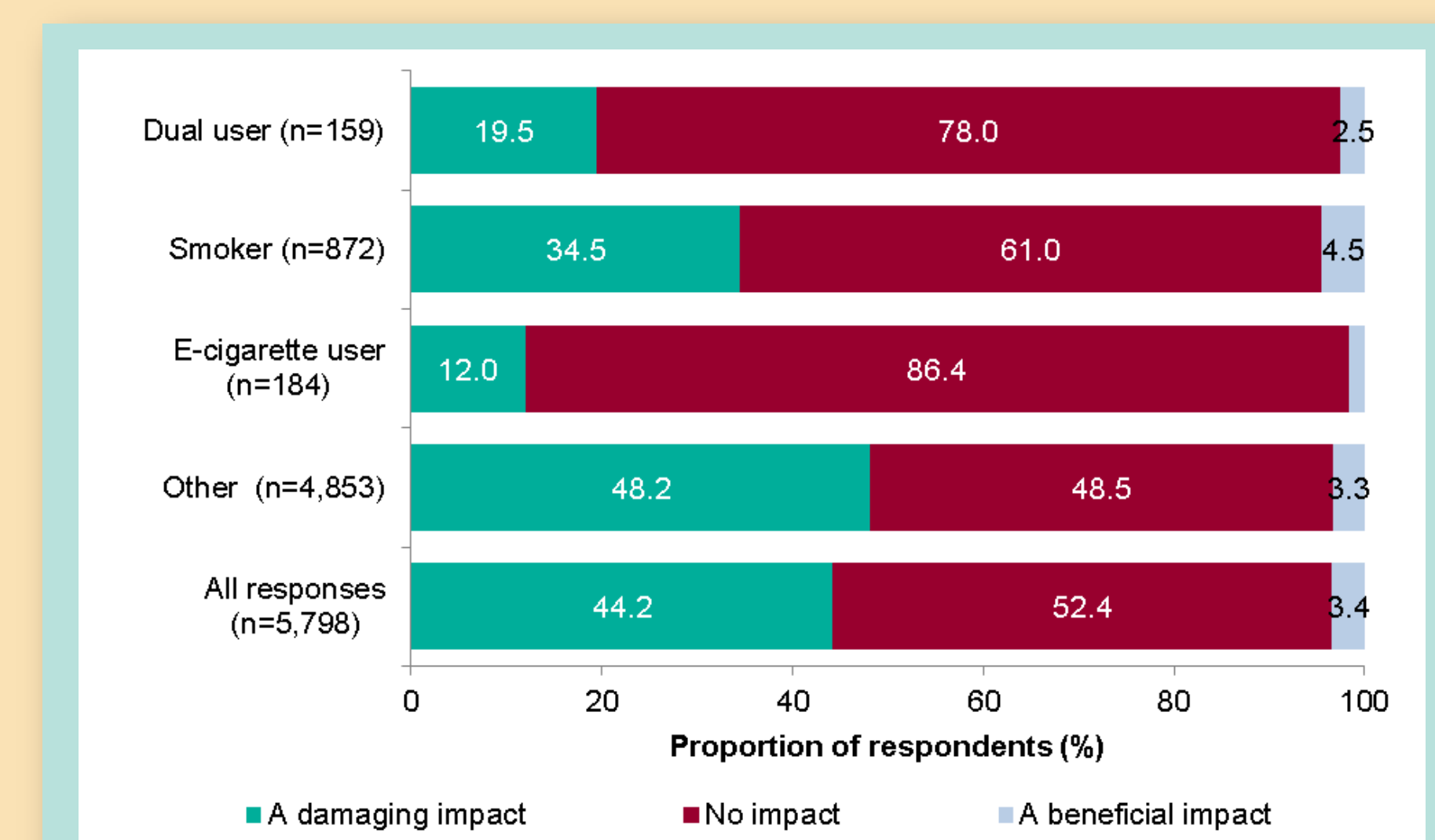


Figure 3: Perception of harm of e-cigarettes to others, by user type

When asked about the regulation of e-cigarettes, the majority of respondents did not believe it was necessary for there to be any regulations, with at least three quarters of each group responding as such (see table 2).

Dual users had the highest proportion of respondents believing that there should be some regulation on e-cigarettes (21.2%), followed by e-cigarette users (15.5%) and current smokers (14.6%). In the 'other' category, just 7.3% believed that there should be some regulation of products.

People not currently using e-cigarettes also had higher rates of believing there was not enough evidence to decide.

## DISCUSSION

Smoking has been a long-standing, significant public health concern, whereas e-cigarettes have been available for the last 10 years and used by small numbers of the population. It is a new and emerging area for public health consideration.

A review published by Public Health England<sup>2</sup> estimates that e-cigarettes are at least 95% safer than tobacco cigarettes, therefore posing only a small fraction of the risks of smoking and states that 'switching completely from smoking to vaping conveys substantial health benefit'.

Furthermore, e-cigarettes could be contributing to at least 20,000 successful new quits per year and possibly many more although the report does acknowledge that many smokers incorrectly believe that e-cigarette use is as harmful as cigarette smoking<sup>2</sup>.

The belief that e-cigarettes could be a gateway to smoking is currently not supported by the evidence<sup>5</sup>.

Further study would look at whether attitudes towards e-cigarettes are changing over time, as more survey data becomes available.

## CONCLUSIONS

- This study found that dual users were more likely than current smokers to have an intention to quit.
- Significant associations were shown between category of use and intention to quit smoking or stop vaping.
- The attitudes of those that responded to the survey showed that 71.8% believed that e-cigarettes were less harmful than tobacco cigarettes to the user, but there were significant differences in attitudes between different groups of users.

## REFERENCES

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