

CURIOSITY AND INTENTIONS TO USE MYBLU
ENDS AND AN EXAMINATION OF THE GATEWAY
THEORY: DATA FROM CROSS-SECTIONAL
NATIONALLY REPRESENTATIVE SURVEYS

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DISCLOSURES

- LA Clinical Trials LLC and whatIF? Consulting Ltd design and conduct clinical and behavioural studies for manufacturers of tobacco/nicotine products and NRT
- Fontem US LLC sponsored the research studies described in this presentation
- Survey design and implementation was conducted independently of Fontem US LLC
- LA Clinical Trials LLC and whatIF? Consulting Ltd made the decision to submit the abstract/presentation
- Some additional data analyses were conducted by Imperial Brands PLC

INTRODUCTION

- Cigarette smoking is a cause of human morbidity and mortality
- Diseases arise from exposure to toxicants formed during combustion of tobacco
- Quitting smoking greatly reduces disease risk; despite large numbers of adult smokers wanting to stop, less than 10% of adult smokers quit each year

INTRODUCTION

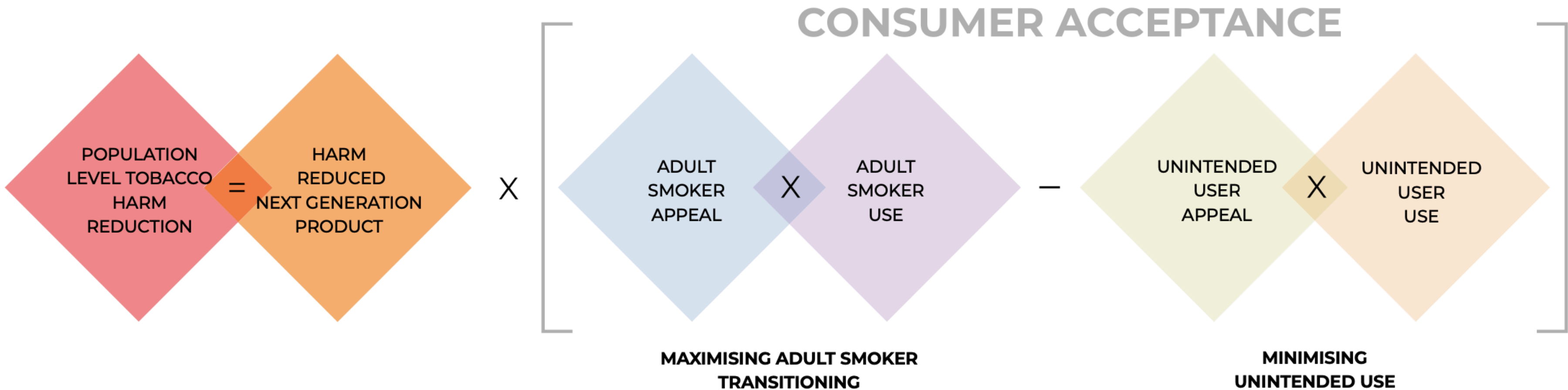
- Electronic nicotine delivery systems (ENDS) deliver nicotine with fewer and substantially lower levels of toxicants
- In those uninterested or unwilling to quit smoking, public health bodies have proposed that ENDS may be a less harmful alternative to cigarette smoking
 - Public Health England
 - UK Royal College of Physicians
 - Health Canada

INTRODUCTION

- *myblu* ENDS is a closed-system, pod-based ENDS
- Marketed in the US and elsewhere as an alternative to smoking combustible cigarettes for adult smokers who would otherwise continue to smoke
- In the US, *myblu* is sold in a range of nicotine strengths and (prior to 2020) flavors
- Some products contain nicotine salts



INTRODUCTION



Only if smoking reductions are coupled with sufficient uptake and exclusive use of ENDS by current adult smokers, with minimal (but ideally no) uptake by nicotine-naïve users, can population harm reduction be maximized

AIMS

- To examine curiosity and intentions to use *myblu* ENDS among US young adult and adult current, former, and never smokers
 - Does *myblu* ENDS use facilitate an "off-ramp" from cigarette smoking?
- To investigate the prevalence of *myblu* ENDS use among young adult and adult never smokers
 - Does *myblu* ENDS use support an "on-ramp" towards cigarette smoking among never users of nicotine?

METHODS

- Data were analyzed from two online, cross-sectional surveys
 - 3 waves of a ‘prevalence’ survey assessing the prevalence of use and intentions to use combustible cigarettes and *myblu* ENDS
 - 3 waves of a ‘perceptions’ survey assessing perceptions of the risks, addictiveness, and appeal of cigarettes and ENDS, including *myblu*
- Surveys collected data in non-probabilistic samples of the US population
 - Quotas were set based on census information for age, sex, education level, and region; data were weighted using a raking procedure
- Both studies and all associated documentation were IRB approved

METHODS

- Eligible individuals were young adults (aged 18-24 years) and adults (aged 25+ years) who were members of Qualtrics' online research panel
- Invitation email sent to potentially eligible participants. Only individuals who were of legal age to purchase tobacco products were allowed to participate
- For the perceptions survey, only those who had seen or heard of ENDS in general, and of *myblu* ENDS specifically, were allowed to participate
- Online informed consent was given prior to survey participation

METHODS

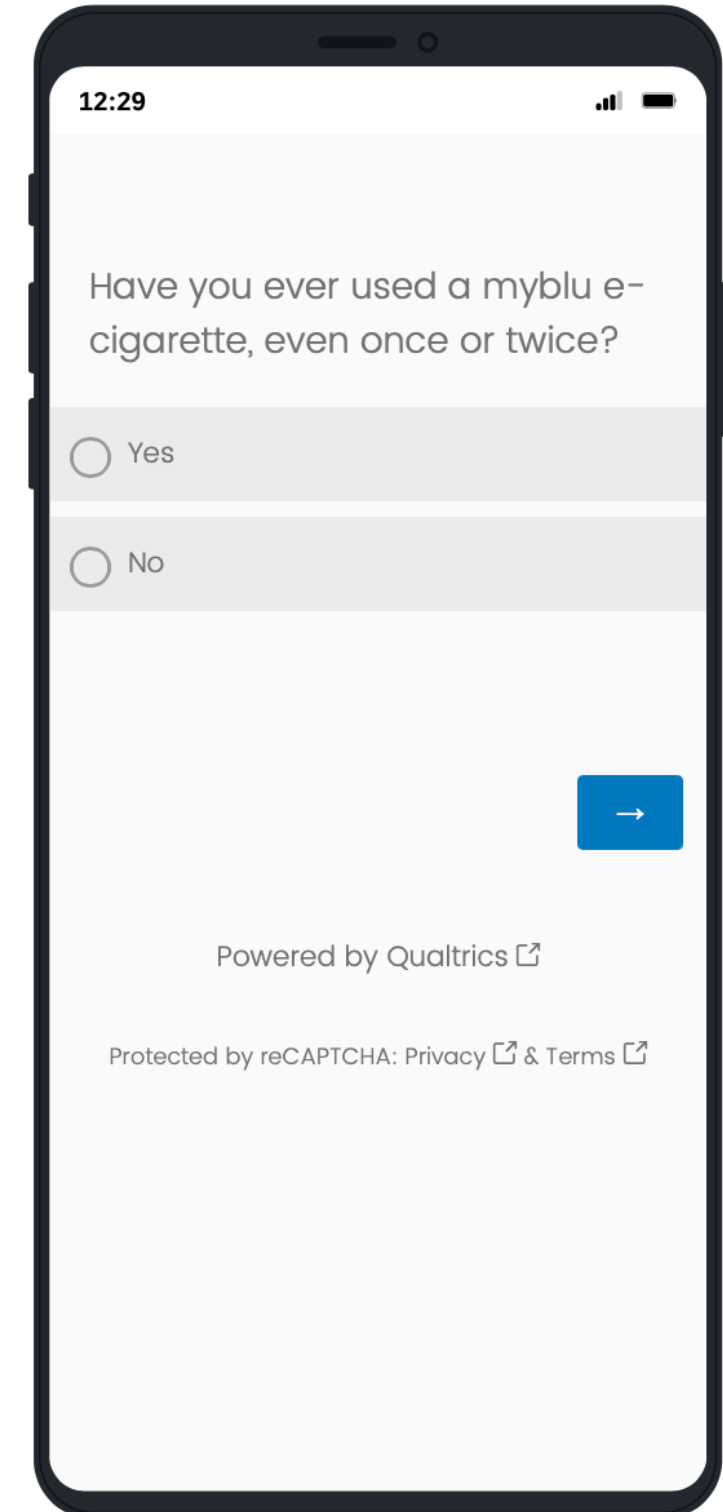
- Based on programmed survey logic, participants were routed to applicable questions based on responses to previous questions
- Participants answered survey questions at their own pace
- Manual and automated checks were implemented by Qualtrics to ensure participants who gave low quality or invalid responses were excluded from the dataset

METHODS

Have you ever used a myblu e-cigarette, even once or twice?

Yes

No



METHODS

▼  Display this question

If Have you ever used a myblu e-cigarette, even once or twice? No Is Selected

Have you ever been curious about using a myblu e-cigarette?

- Not at all curious
- A little curious
- Somewhat curious
- Very curious

RESULTS

Participant demographics ; 3 waves of each survey type combined

Variable	Response	N (%)	Mean	SEM	N (%)	Mean	SEM
		Young Adults			Adults		
Age	Years	22232	21.50	0.01	23264	50.05	0.10
Sex	Male	10077 (50.1)	.	.	11215 (48.1)	.	.
	Female	11798 (48.3)	.	.	11955 (51.5)	.	.
	Transgender	357 (1.6)	.	.	94 (0.4)	.	.
Region	Northeast	3858 (19.1)	.	.	4471 (19.8)	.	.
	South	9654 (39.1)	.	.	8376 (38.8)	.	.
	Midwest	4175 (21.0)	.	.	5781 (21.0)	.	.
	West	4542 (20.8)	.	.	4635 (20.5)	.	.
Hispanic, Latino/Latina, or Spanish origin?	Not of Hispanic, Latino/Latina, or Spanish origin	17257 (78.6)	.	.	21297 (91.5)	.	.
	Mexican, Mexican American, or Chicano	2702 (11.9)	.	.	969 (4.2)	.	.
	Puerto Rican	736 (3.0)	.	.	343 (1.5)	.	.
	Cuban	253 (1.1)	.	.	151 (0.7)	.	.
	Multiple Hispanic ethnicities	1284 (5.5)	.	.	504 (2.2)	.	.
Race	White	13675 (73.3)	.	.	19103 (78.6)	.	.
	Black or African American	4693 (15.0)	.	.	2160 (12.3)	.	.
	American Indian or Alaska Native	502 (1.3)	.	.	272 (0.7)	.	.
	Asian	985 (3.7)	.	.	726 (5.2)	.	.
	Multiracial	2377 (6.7)	.	.	1003 (3.2)	.	.
Smoking status	Established smoker	3359 (10.5)	.	.	7182 (14.1)	.	.
	Experimental smoker	8920 (42.8)	.	.	6657 (35.4)	.	.
	Former smoker	1246 (7.2)	.	.	5095 (27.6)	.	.
	Never smoker	8707 (39.6)	.	.	4330 (22.9)	.	.

RESULTS – PREVALENCE SURVEY

- Among 14,804 young adults in the prevalence survey:
 - Awareness of *myblu* was 57.9%
 - Prevalence of ever-use of *myblu* was 14.2%
 - Ever *myblu* use was more prominent among established and experimental smokers than former and never smokers
 - Only 1 young adult never smoker reported established *myblu* ENDS use

RESULTS – PREVALENCE SURVEY

- **Young adult current smokers** significantly more likely to have used *myblu* ENDS compared with:
 - **former smokers**; OR = 1.42, 95% CI [1.08, 1.86]
 - **never smokers**; OR = 2.52, 95% CI [1.93, 3.30]
- Being a **young adult current smoker** associated with being more curious to use *myblu* ENDS compared with:
 - **former smokers**; OR = 1.59, 95% CI [1.03, 2.47]
 - **never smokers**; OR = 1.58, 95% CI [1.10, 2.29]

RESULTS – PREVALENCE SURVEY

- Among 15,453 adults in the prevalence survey:
 - Awareness of *myblu* was 47.3%
 - Prevalence of ever-use of *myblu* was 10.2%
 - Ever *myblu* use was more prominent among established and experimental smokers than former and never smokers

RESULTS – PREVALENCE SURVEY

- **Adult current smokers** significantly more likely to have used *myblu* ENDS compared with **former smokers** (OR = 1.57, 95% CI [1.28, 1.92]) but not compared with **never smokers** (OR = 1.15, 95% CI [0.72, 1.82])
- Being an **adult current smoker** associated with being more curious to use *myblu* ENDS compared with **former smokers** (OR = 1.87, 95% CI [1.38, 2.53]) but not compared with **never smokers** (OR = 1.08, 95% CI [0.58, 2.01])

RESULTS – PERCEPTIONS SURVEY

- Being a **young adult current smoker** associated with being more curious to use *myblu* ENDS compared with **never smokers** (OR = 1.64, 95% CI [1.14, 2.35]) but not compared with **former smokers** (OR = 1.01, 95% CI [0.65, 1.55])
- **Adult current smokers** more curious to use *myblu* ENDS compared with:
 - **former smokers**; OR = 1.91, 95% CI [1.43, 2.54]
 - **never smokers**; OR = 2.58, 95% CI [1.15, 5.75])

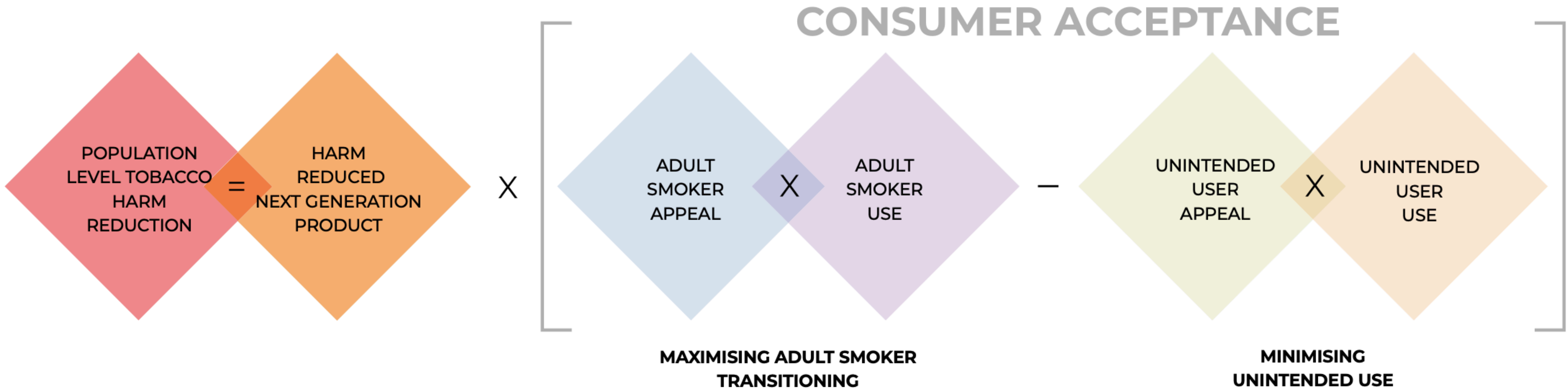
RESULTS – “GATEWAY” EFFECT

- <10% of *myblu* users in the surveys were never smokers
- In either survey and in both the young adult and adult cohorts, the prevalence of *myblu* use among never smokers prior to subsequent cigarette smoking was low ($\leq 4.2\%$)
- **Overall, in all surveys and age cohorts combined, 124 participants (representing 0.1% of the total survey population) reported using *myblu* ENDS for the first time prior to smoking cigarettes and went on to become established smokers**

CONCLUSIONS

- Use of *myblu* ENDS predominantly found in participants with a smoking history and particularly in current smokers
- Curiosity and intentions to use *myblu* ENDS generally more common among current smokers than former and never smokers
- Our analyses did not find significant levels of *myblu* use prior to ever smoking leading to established smoking
- *myblu* ENDS use more commonly found in those who may benefit the most from using ENDS as an alternative to cigarette smoking

CONCLUSIONS



The public health potential of *myblu* ENDS is not mitigated to any great degree by unintended use, curiosity/intentions to use, or by the generation of a “gateway” effect between ENDS use and subsequent initiation of established cigarette smoking among never smokers

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