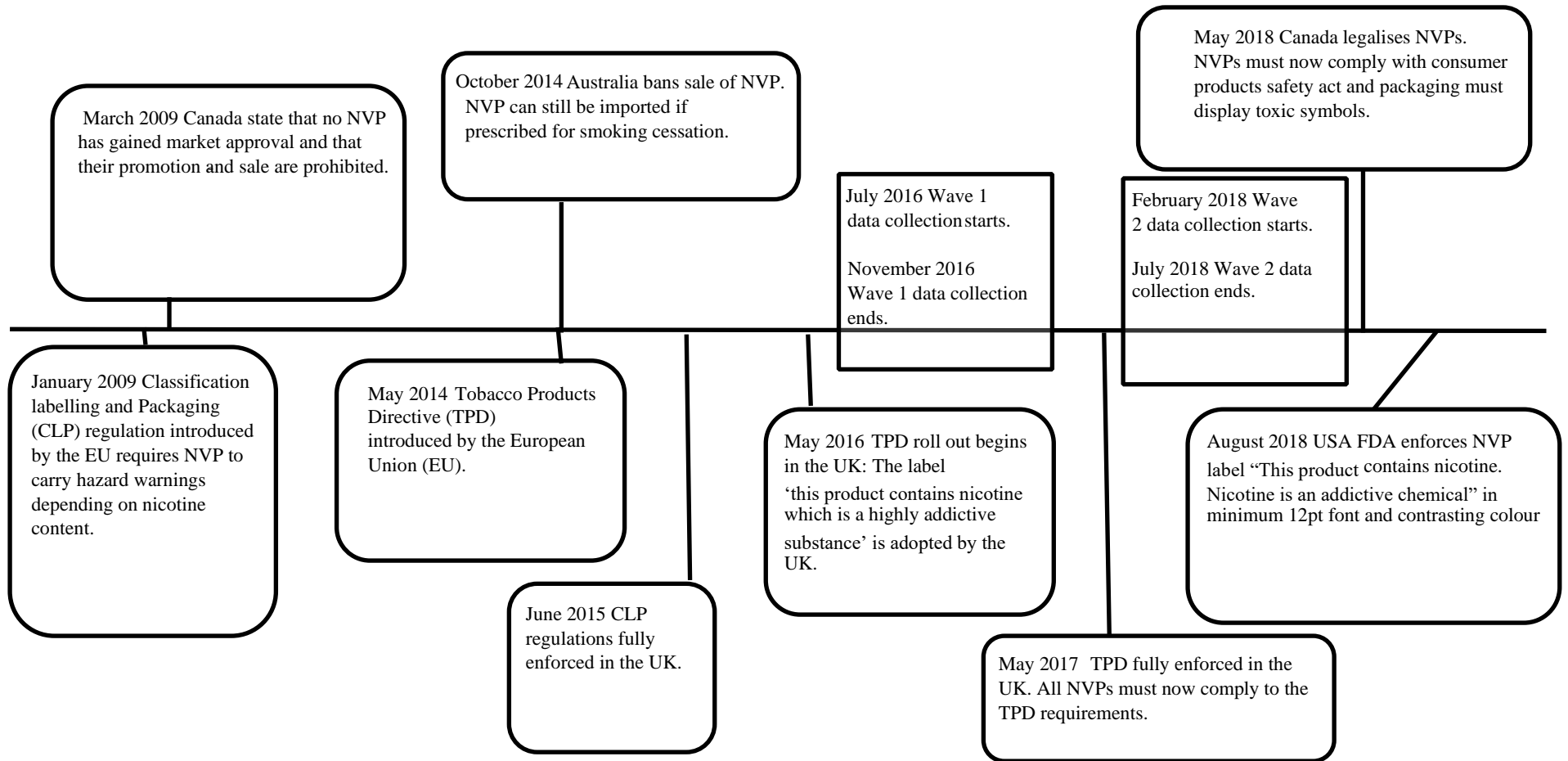**_Supplementary Figure 1: Example of the European Union TPD warning labels adopted by England._**

The warning must be in black bold Helvetica type on a white background and cover 30% of the front and the back of the pack.

The EU TPD offered two warning options, '*This product contains nicotine which is a highly addictive substance"* or *"This product contains nicotine which is a highly addictive substance. It is not recommended for use by non-smokers'* England adopted the warning pictured above*.

Supplementary Figure 2: Timeline of policies concerning NVP warnings across England, Canada, the US and Australia

March 2009 Canada state that no NVP has gained market approval and that their promotion and sale are prohibited.

October 2014 Australia bans sale of NVP. NVP can still be imported if prescribed for smoking cessation.

May 2018 Canada legalises NVPs. NVPs must now comply with consumer products safety act and packaging must display toxic symbols.

July 2016 Wave 1 data collection starts.

November 2016 Wave 1 data collection ends.

February 2018 Wave 2 data collection starts.

July 2018 Wave 2 data collection ends.

January 2009 Classification labelling and Packaging (CLP) regulation introduced by the EU requires NVP to carry hazard warnings depending on nicotine content.

May 2014 Tobacco Products Directive (TPD) introduced by the European Union (EU).

May 2016 TPD roll out begins in the UK: The label 'this product contains nicotine which is a highly addictive substance' is adopted by the UK.

August 2018 USA FDA enforces NVP label "This product contains nicotine. Nicotine is an addictive chemical" in minimum 12pt font and contrasting colour

June 2015 CLP regulations fully enforced in the UK.

May 2017 TPD fully enforced in the UK. All NVPs must now comply to the TPD requirements.

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Supplementary Table 1: Weighted Frequencies of Recalling Warning Messages Across Countries Between Wave 1 (2016) And Wave 2 (2018)

	England		Canada		US		Australia	
"*What do you recall the health warning(s) saying?*"	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2
This product contains nicotine which is a highly addictive substance.	86.0%	94.9%	79.6%	87.0%	71.9%	88.1%	71.1%	73.5%
E-cigarettes are not to be used by non-smokers.	29.6%	34.7%	29.9%	31.9%	33.7%	20.5%	25.6%	24.9%
Keep e-cigarettes out of reach of children.	70.5%	67.6%	74.9%	78.0%	80.4%	81.6%	58.0%	80.6%
E-cigarettes are not a safe alternative to cigarettes.	19.7%	24.7%	40.1%	39.9%	49.1%	45.1%	46.5%	20.3%
E-cigarettes are not to be sold to minors.	68.5%	49.9%	64.6%	73.4%	69.2%	72.1%	74.7%	62.7%
E-cigarettes contain cancer-causing chemicals.	19.4%	25.9%	51.6%	54.4%	36.7%	41.4%	61.4%	28.1%

All analysis is weighted. Only participants who had reported reading a warning label were included in analysis.

As well as noticing warning labels, respondents were also asked if they read warning labels "In the last 30 days, have you read any of the health warnings". Those who stated that yes (n=1,521) they had read warnings were asked about recalling a range of warning messages, these are listed in the table above alongside weighted percentages of respondents recalling noticing these warnings.

Supplementary Table 2: Smoking and Vaping Measures

Variable questions	Response categories
Smoking status *Derived from the following three questions* • Have you smoked 100 or more cigarettes over your lifetime? • How often, if at all, do you CURRENTLY smoke ordinary cigarettes (either factory made/packet or roll-your-own)? • How long ago did your CURRENT quit attempt start?	Respondents were categorised: 'Daily smoker', 'Weekly smoker', 'Monthly smoker', 'Less than monthly smoker', 'Recent quitter (last 24 months)', 'Long term quitter', 'Never smoked (identifies as never having been a smoker OR smoked less than 100 cigarettes in life time)'. Never smokers were recruited if they were current NVP users.
Vaping status *Derived from the following three questions* • Have you ever used an e-cigarette or vaping device, even one time? • How often, if at all, do you CURRENTLY use e-cigarettes/ vaping devices (i.e. vape)? • At the time when you were using e-cigarettes (vaping) most often, how often did you use an e-cigarette?	Respondents were categorised: 'Current daily vaper', 'Current weekly vaper', 'Current monthly vaper', 'Current less-than-monthly vaper', 'Quitter (past vaper at least weekly)', 'Past trier (vaped more than once/ occasionally)' 'Past trier (vaped only once)'.
Smoking and vaping status (*all groups mutually exclusive*) This variable was derived from the above Smoking and Vaping status variables.	Responses were categorised: *Concurrent*: Any current (daily, weekly, monthly, lessthan monthly) smoking AND any current (daily, weekly, monthly, less-than monthly) NVP use. *Daily NVP*: 'Current daily vaper'. *Non-Daily NVP*: 'Current weekly vaper', 'Current monthly vaper', 'Current less-than-monthly vaper'. *Daily smoker*: 'Daily smoker'. *Non-Daily smoker*: 'Weekly smoker', 'Monthly smoker', 'Less than monthly smoker'. *Quitter*: 'Quitter (past vaper at least weekly)', 'Past trier (vaped more than once/ occasionally)' 'Past trier (vaped only once)' OR 'Recent quitter -last 24 months (smoking)', 'Long term quitter (smoking)'.
Friend or family uses an NVP *Derived from the following three questions:* • "Does your partner or spouse currently use e-cigarettes/ vaping devices?" • "How many people 18 or over in your household currently use e-cigarettes/ vaping devices at least weekly?" • "Of the 5 closest friends or acquaintances that you spend time with on a regular basis, how many of them use e-cigarettes/ vaping devices?"	Responses were categorised: *Yes*: 'Yes' response to partner or spouse using an e-cigarette OR reporting 1 or more people in their household using an e-cigarette OR reporting 1 or more friends using an e-cigarette. *No*: no friends/family use e-cigarettes or 'refused' or 'don't know' responses to all three questions.

Supplementary Table 3: Unweighted Participant Characteristics at Wave 1 and Wave 2 (2016-2018) by Country.

	England		Canada		US		Australia	
	Wave 1 % (N=4146)	Wave 2 % (N=4609)	Wave 1% (N=3630)	Wave 2 % (N=3669)	Wave 1 % (N=2685)	Wave 2 % (N=2810)	Wave 1 % (N=1473)	Wave 2 % (N=1490)
Gender								
Male	53.5%	50.1%	46.9%	47.2%	51.7%	46.3%	51.3%	51.5%
Female	46.5%	49.9%	53.1%	52.8%	48.3%	53.7%	48.7%	48.5%
Age								
18-24	21.2%	23.3%	23.6%	23.6%	19.4%	22.7%	3.1%	1.9%
25-39	25.2%	22.2%	25.3%	25.5%	26.8%	17.8%	19.2%	16.6%
40-54	26.4%	25.9%	27.6%	27.4%	17.5%	20.9%	38.5%	35.0%
55 +	27.3%	28.6%	23.5%	23.5%	36.3%	38.6%	39.2%	46.5%
Ethnicity [a]								
White	93.1%	92.1%	81.8%	79.7%	78.1%	75.7%	89.1%	90.8%
Non-White	6.9%	7.9%	18.2%	20.3%	21.9%	24.3%	10.9%	9.2%
Income [b]								
Low	20.9%	23.3%	22.3%	22.3%	31.1%	35.2%	20.2%	22.6%
Moderate	29.0%	30.3%	28.2%	28.5%	29%	29.6%	24.7%	24.5%
High	42.3%	40.4%	42.5%	42.1%	39.0%	34.6%	48.4%	46.6%
No Answer	7.7%	6.0%	7.0%	7.1%	0.9%	0.5%	6.7%	6.3%
Education [c]								
Low	28.1%	30.3%	29.2%	28.6%	31.3%	35.5%	33.1%	34.0%
Moderate	40.8%	40.6%	44.7%	43.8%	37.2%	43.5%	40.1%	40.7%
High	31.1%	29.1%	26.0%	27.6%	31.5%	21.0%	26.8%	25.3%
Friend/family Vape								
Yes	34.6%	38.1%	33.8%	34.5%	34.1%	31.7%	14.0%	18.3%
No	65.4%	61.9%	66.2%	65.5%	65.9%	68.3%	86.0%	81.7%
Wave of recruitment								
Wave 1	n/a	66.5%	n/a	74.6%	n/a	70.5%	n/a	78.2%
Wave 2	n/a	33.5%	n/a	25.4%	n/a	29.5%	n/a	21.8%
Smoking and Vaping Status								
Concurrent	47.0%	50.1%	49.3%	43.2%	46.7%	36.7%	23.4%	22.8%
Daily EC	3.8%	6.7%	2.4%	3.4%	4.9%	10.3%	2.6%	5.1%
Non-Daily EC	1.5%	1.5%	3.9%	5.4%	1.5%	2.6%	0.7%	0.9%
Daily Smoker	33.2%	32.3%	27.3%	29.7%	32.5%	33.5%	61.0%	56.6%
Non-Daily Smoker	9.6%	4.9%	9.4%	5.7%	6.2%	5%	4.8%	3.4%
Quitter	4.8%	4.5%	7.8%	12.7%	8.3%	11.9%	7.5%	11.3%

Percentages are based on unweighted data.

[a] 'White' included participants who identified as white for US, Canada and England, and -English speaking for Australia. 'Non-White' included participants who identified as a different ethnicity in the US, Canada, and England or were non-English speaking in Australia.

[b] Income was derived from reported yearly household income. Low included those with a household income of up to £15,000 or $29,999 (CA, US and AU). Moderate included those with a household income of £15,001-£30,000 or $30,000-$59,999 (CA, US, AU). High included those with a household income of over £30,001 or $60,000 (CA, US, AU).

[c] Education was derived from reported highest level of education. Low included those with primary or secondary school education. Moderate included those with further training/ college qualifications or those who had not completed university. High included those who had completed a university degree.

Supplementary Table 4: Correlates of Noticing Health Warning Labels at Wave 1(2016, N=11934) and Wave 2(2018, N=12578)

		Noticing HWLs Wave 1 (2016)						Noticing HWLs Wave 2 (2018)					
		n	%	OR	95% CI		p	n	%	OR	95% CI		p
Total		685	5.8 %					870	6.9 %				
Country	Canada	254	7.0%	1.58	1.17	2.13	**<.001**	188	5.1%	0.74	0.57	0.95	**.018**
	US	188	7.0%	1.83	1.29	2.59	**<.001**	180	6.5%	0.86	0.66	1.13	.288
	Australia	39	2.7%	0.89	0.56	1.43	.640	71	4.8%	0.53	0.36	0.89	**.013**
	England	201	4.9%	ref				430	9.4%	ref			
Age	18-24	142	9.0%	1.53	1.06	2.21	**.020**	202	14.0%	1.35	0.80	2.28	**<.001**
	25-39	254	6.6%	1.29	0.94	1.77	.110	366	8.7%	1.07	0.66	1.75	**.001**
	40-54	149	4.4%	0.90	0.64	1.25	.520	179	5.1%	1.00	0.61	1.63	.147
	55+	138	4.5%	ref				123	3.6%	ref			
Gender	Male	460	7.0%	1.77	1.40	2.22	**<.001**	509	7.3%	1.26	1.01	1.58	**.042**
	Female	223	4.2%	ref				361	6.4%	ref			
Ethnicity [a]	White	524	5.1%	0.61	0.45	0.81	**<.001**	687	6.3%	0.64	0.48	0.85	**.002**
	Non-White	159	10.3%	ref				183	10.5%	ref			
Income [b]	Low	164	6.0%	1.34	0.75	2.40	.320	228	7.7%	1.36	0.81	2.29	.251
	Moderate	218	6.5%	1.46	0.84	2.53	.180	231	6.4%	1.08	0.66	1.76	.767
	High	270	5.4%	1.09	0.64	1.85	.740	363	6.9%	1.01	0.62	1.65	.964
	No Answer	30	4.0%	ref				48	7.0%	ref			
Education [c]	Low	168	4.6%	0.65	0.49	0.87	**<.001**	214	5.7%	0.81	0.60	2.29	.197
	Moderate	341	5.8%	0.84	0.66	1.07	.160	436	7.3%	.77	0.58	1.101	.063
	High	174	7.2%	ref				220	7.8%	ref			
Friend/Family Vape	Yes	312	10.2%	1.73	1.36	2.21	**<.001**	519	14.8%	2.15	1.72	2.68	**<.001**
	No	370	4.3%	ref				350	3.9%	ref			
Smoking and vaping status	Concurrent	299	9.7%	3.49	1.81	6.73	**<.001**	328	11.5%	7.34	3.58	15.29	**<.001**
	Daily NVP	107	17.4%	7.47	3.55	15.70	**<.001**	315	37.0%	32.07	14.98	68.75	**<.001**
	Non-daily NVP	49	8.8%	2.80	1.25	6.24	**.010**	55	10.5%	5.09	2.11	12.26	**<.001**
	Daily smoker	110	2.7%	1.15	0.59	2.24	.68	106	2.2%	1.80	0.83	3.87	.135
	Non-daily smoker	55	5.4%	2.06	1.01	4.19	.05	36	4.8%	3.44	1.45	8.15	**.005**
	Quitter	63	2.5%	ref				30	1.2%	ref			

Analysis used weighted logistic regression and was completed for Wave 1(2016) and Wave 2 (2018) separately. Percentages and regressions are based on weighted data. Noticed warning responses only includes responders who stated they had noticed warnings

a 'White' included participants who identified as white for US, Canada and England, and English speaking for Australia. 'Non-White' included participants who identified as a different ethnicity in the US, Canada, and England or were non-English speaking in Australia.

b Income was derived from reported yearly household income. Low included those with a household income of up to £15,000 or $29,999 (CA, US and AU). Moderate included those with a household income of £15,001-£30,000 or $30,000-$59,999 (CA, US, AU). High included those with a household income of over £30,001 or $60,000 (CA, US, AU).

c Education was derived from reported highest level of education. Low included those with primary or secondary school education. Moderate included those with further training/ college qualifications or those who had not completed university. High included those who had completed a university degree.