



*** Preliminary Version ***

ITC Four Country Smoking and Vaping Survey Wave 5 (4CV5, 2024-2025) Technical Report

Version Date: 21 Jul 2025

Funding: The ITC Four Country Smoking and Vaping Survey (also termed the ‘Project 1 Nicotine Product Adult Survey’) was supported by grants from the US National Cancer Institute (P01 CA200512), the Canadian Institutes of Health Research (FDN-148477), Health Canada (4CV5), and the National Health and Medical Research Council of Australia (GTN2019252).

Ethics Clearance: The survey protocols and all materials of Wave 4 ITC Four Country Smoking and Vaping Survey, including the survey questionnaires, were cleared for ethics by Office of Research Ethics, University of Waterloo, Canada (REB#20803/30570, REB#21609/30878); Research Ethics Office, King’s College London, UK (IRB RESCM-17/18-2240), Human Ethics, Research Management Office, University of Queensland, Australia (2016000330/HREC1603, IRB#2022/HE001187); and Institutional Review Board Medical University of South Carolina (waived due to minimal risk). All participants provided consent to participate.

Suggested Citation: ITC Project. (2025, July). *ITC Four Country Smoking and Vaping Survey, Wave 5 (4CV5, 2024-2025) Technical Report*. University of Waterloo, Waterloo, Ontario, Canada; Medical University of South Carolina, Charleston, South Carolina, United States; the University of Queensland, Australia; King’s College London, London, United Kingdom.

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Acknowledgements

The Wave 5 ITC Four Country Smoking and Vaping (4CV) Survey Technical Report was prepared from documents and other material that the International Tobacco Control Policy Evaluation Project (ITC) Research Team has created since 2015. The compilation of these documents and preparation of the material that accompanies those documents was conducted by Geoffrey T. Fong, Principal Investigator of the ITC Project; Mary Thompson, Co-Investigator and Director of the Data Management and Analysis Team; Christian Boudreau, Associate Director of the Data Management and Analysis Team; Pete Driezen, Senior Analyst; Grace Li, Data Analyst; and ITC Project Management members Thomas Agar, Anne C.K. Quah, and Janine Ouimet. We thank the Co-Investigators from the participating sites across the four countries (University of Waterloo, Canada; Medical University of South Carolina and Roswell Park Comprehensive Cancer Centre, US; King's College London, UK; Cancer Council Victoria and the University of Melbourne, Melbourne, Australia; and University of Queensland, Australia), Co-Investigators from other institutions (University of South Carolina, Georgetown University, Virginia Tech, Ohio State University, Governors State University, Deakin University), and the survey firms (Roy Morgan for Australia; Leger for Canada; Ipsos UK (previously Ipsos MORI) and Rakuten Insight for England; and Ipsos Public Affairs for the United States); and the Statistical Consulting and Survey Research Unit at the University of Waterloo, Canada (for hosting the survey).

We thank our funders for their support:

U.S. National Cancer Institute (United States)
Health Canada and Canadian Institutes of Health Research (Canada)
National Health and Medical Research Council (Australia)

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Abbreviations and Terminology

The abbreviations and terms listed here are used for this report. For academic publications, see [Appendix D – Terminology guidelines for academic publications](#).

| Abbreviation | Definition |
|--------------------------|---|
| ITC | International Tobacco Control Policy Evaluation Project |
| 4C | ITC Four Country Survey |
| 4CV | ITC Four Country Smoking and Vaping Survey |
| ETM | Experimental Tobacco Marketplace |
| CCV | Cancer Council Victoria |
| Dynata (prev SSI) | Dynata was a panel partner for RM in AU, and for Ipsos UK and Rakuten in England. Prior to 4CV3, Dynata was SSI (Survey Sampling International) |
| DMC | Data Management Centre |
| Ipsos | A survey firm recruiting part of the ITC sample in the United States. Previously known as GfK Knowledge Panel. |
| Ipsos UK | Previously named Ipsos Mori. A survey firm recruiting part of the ITC sample in England and part of the sample in the United States |
| Leger | Survey firm recruiting the ITC sample in Canada |
| TF-ONP | Tobacco-free oral nicotine products. An emerging class of nicotine product (often lozenges, pouches, etc) that delivers nicotine to users. Contains no tobacco. |
| PMG | Project Management Group |
| Rakuten | Rakuten Insight. Survey firm recruiting part of the ITC sample in England |
| RM | Roy Morgan. Survey firm recruiting the ITC sample in AU using their proprietary panel, Single Source. |
| SMG | Survey Management Group |
| SCSRU | Survey Research Centre. Survey firm programming and hosting the ITC 4CV Survey. Based at the University of Waterloo, Canada. |
| SSI (now Dynata) | Survey Sampling International. At 4CV3, SSI changed to Dynata . Dynata was a panel partner for RM in AU, and for Ipsos UK and Rakuten in England. |
| UoM | University of Melbourne |
| UQ | The University of Queensland |
| UW | University of Waterloo |
| VT | Virginia Tech |
| NVP | Nicotine Vaping product |
| HTP | Heated tobacco product |
| PIN | Personal Identification Number |
| RDD | Random digit dialing |

| Terminology | Definition |
|--|--|
| Heated tobacco product (HTP) | Product that heats actual tobacco in the form of sticks or capsule, or loose tobacco. Some HTP may also contain liquid, but what matters is that they contain actual tobacco. |
| Nicotine vaping product (NVP) | A vaping product (sometimes called an e-cigarette) that heats a liquid only. It does not contain actual tobacco. The liquid often contains nicotine and is often flavoured. |
| Smoker: | Someone who currently smokes at least occasionally, and has smoked at least 100 cigarettes, irrespective of NVP use. |
| Vaper: | Someone who currently vapes daily or weekly, irrespective of cigarette smoking |
| Long-term former smoker*: | Someone who has quit smoking for more than 24 months and less than 5 years, has smoked at least monthly in the past, and has smoked at least 100 cigarettes; OR has quit for more than 5 years but currently vapes at least weekly, or was vaping at least weekly at 4CV1. <i>*See Table 2 below for differences in definition and inclusion across waves and countries. Note: Terms “former smoker” and “quitter” are equivalent.</i> |
| Recent former smoker: | Someone who has quit for less than 24 months, has smoked at least monthly in past, and has smoked at least 100 cigarettes, irrespective of NVP use. <i>Note: Terms “former smoker” and “quitter” are equivalent.</i> |
| Recontact: | Describes a respondent who participated in the previous wave and was re-invited to participate at this wave, or any survey form or activities customized for that group. |
| Replenishment: | Describes a new respondent who was recruited at this wave, or any survey form or activities customized for that group. |
| Panelist: | Any respondent from an online panel, either from a survey firm or a survey firm’s partner. |
| ITC-owned respondent: | A respondent for whom ITC has access to his/her contact information and can invite him/her directly. Recruitment sources could be from: a) a telephone RDD sampling frame created for the ITC during 4C (i.e., ITC-owned 4C cohort), or b) an opt-in panel partner firm in the US during 4C9 or 4CV1 (i.e., new ITC-owned). |
| ITC-owned 4C cohort respondent: | A respondent who was recruited from a telephone RDD sampling frame at 4C (i.e., any wave prior to 4CV1). |
| New ITC-owned respondent: | A respondent who was recruited from a US opt-in panel partner at 4CV1 or 4CV2. |
| Panel-owned respondent: | A respondent who belongs to a web panel survey firm or panel partner. ITC does <u>not</u> have access to their contact information and all communications must take place through the relevant survey and/or partner panel firm. |
| Complete: | Respondent who submitted a completed survey. |
| Incomplete: | Respondent who was invited but did not access the survey. |
| Partial: | Respondent who accessed the survey but did not submit a completed survey. |
| Survey firm: | A country survey firm who recontacted previous wave respondents and/or recruited new respondents from their own (or a partner) online panel and/or programmed some or all of the survey. |
| Panel partner firm: | A separate survey firm working in collaboration with the country survey firm to recruit recontact and/or replenishment respondents from an alternate online panel. |
| Panel ID: | A survey firm’s unique specific alphanumeric identification code. |

| | |
|--|---|
| Personal Identification Number (PIN): | A 7-digit alphanumeric code provided by SCSRU to link a respondent to his/her web survey record. |
| UniqID/unique ID | Unique identifier assigned by ITC to a newly recruited respondent who has completed their first survey; the respondent retains this same identifier when recontacted in subsequent waves. |
| | |
| Core data | Refers only to 4CV1. See 4CV3 Technical Report. |
| Full data | See definition (Table 2). |
| Main data | See definition (Table 2) |

Preface

This report describes procedures used during the fifth wave of the International Tobacco Control Four Country Smoking and Vaping Survey (4CV5). 4CV5 Survey fieldwork was conducted approximately 2 years after Wave 4 (Table 1).

Table 1. 4CV Fieldwork dates

| 4CV Wave | Survey fieldwork dates | |
|-------------|------------------------|--------------------------|
| | Start date | End date |
| 4CV1 | July 7, 2016 | November 22, 2016 |
| 4CV2 | February 23, 2018 | July 9, 2018 |
| 4CV3 | February 24, 2020 | June 1, 2020 |
| 4CV4 | August 4, 2022 | December 17, 2022 |
| 4CV5 | July 17, 2024 | February 21, 2025 |

Substantial changes at Wave 5 compared to Wave 4

- **The Experimental Tobacco Marketplace (ETM)** Sub-study was fielded at Wave 5, after a hiatus at Wave 4.

Format of this report

A **terminology** list for important terms and abbreviations used in this report.

[Section 1](#) introduces this project and its **objectives**.

[Section 2](#) provides **methods statements** and **ethics statements** for papers using 4CV4 data.

[Section 3](#) describes the **sample size** and **eligibility criteria** (for cohort and replenishment samples).

[Section 4](#) provides **survey questionnaire content** and the content development process.

[Section 5](#) describes the **survey firms (panels)**.

[Section 6](#) provides the details of the **study procedures**.

[Section 7](#) reports on the sample **targets** and **outcome rates** (e.g., retention rate; response rate; cooperation rate). It also includes survey length values.

[Section 8](#) describes the **ANDS Image Upload Sub-study** associated with 4CV4.

[Section 9](#) reports on **quality control and uniformity** procedures applied to the sample, and **retention rates** from the previous wave.

Appendices A to G provide additional details about (A) [sample size and cohort retention](#), (B) [replenishment sample targets](#), (C) [fieldwork challenges](#), (D) [terminology guidelines](#) for publications, (E) [recruitment materials that used ITC phrasing \(vs. panel standard phrasing\)](#), (F) [sampling weights, design, and national benchmarks](#).

1 Introduction

Since 2002, the International Tobacco Control Policy Evaluation (ITC) Project has provided empirical data to inform governments and stakeholders about the effectiveness of public health policies designed to reduce the health, economic, and societal costs of tobacco use throughout the world. Established to evaluate key health policies implemented under the Framework Convention on Tobacco Control (FCTC)—the first-ever international public health treaty, adopted in May 2003 by all 192 member states of the World Health Organization—the ITC Project conducts representative cohort surveys in 29 countries.

From 2002 to 2015, the flagship Four Country (4C) Survey conducted nationally representative cohort surveys of adult smokers (n =1,500 to 2,000) in each of Australia (AU), Canada (CA), the United Kingdom (UK), and the United States (US). In 2016, the 4C Survey was expanded into the **ITC Four Country Smoking and Vaping (4CV) Survey**, to investigate the relationship between emerging alternative nicotine-delivery (ANDs) products and tobacco use, and to inform emerging policies related to nicotine use. The **4CV Survey** conducts concurrent longitudinal surveys of adult smokers and former smokers, NVP users (recruited since 2016), and heated tobacco product (HTP; recruited since 2020), snus, or tobacco-free oral nicotine users (both recruited since 2022) users in each of Australia, Canada, England, and the United States. These four countries have similar cigarette-smoking rates, but divergent policies on nicotine vaping product (NVP) use. While NVPs and alternative nicotine products may seem much less harmful compared to combustible tobacco (the known leading preventable cause of premature death in high-income countries), the effect of alternative nicotine product use on tobacco cessation, uptake, and sustained use is currently not well understood. Tobacco control experts are divided on whether policies should support, restrict, or ban NVP (and other ANDs products) use.

Over the past decade, demand for NVPs has grown rapidly, and data are required to inform public health policies. While NVPs seem less harmful compared to combustible tobacco products – the known leading preventable cause of premature death in high-income countries – the effect of NVPs use on tobacco cessation, uptake, and/or sustained use is currently not well understood. Tobacco control experts are still divided on whether policies should support, restrict, or ban NVP use.

The specific objectives of the ITC 4CV Survey Waves 4-6 are to:

- 1) Describe the complex interplay between cigarettes and NVPs/HTPs across the 4 countries plus Japan, Korea, and New Zealand, and to identify factors related to those patterns;
- 2) Evaluate the impact of policies on cigarettes (e.g., FCTC policies) and on NVPs/HTPs to determine: a) whether a policy has an effect (outcome evaluation), how and why the policy was effective (mediation), and c) for whom or under what conditions the policy was effective (moderation);
- 3) Evaluate the impact of policies among adults compared to among youth and young adults in Canada, England, and the US; and
- 4) Explore the interaction between smoking, using ANDs, and using cannabis; and the impact of COVID on smoking and using ANDs.

This report provides the methodological background and key statistical indicators for the ITC 4CV5 Survey and provides information on the sampling methods, procedures, and survey administration. This report also provides survey outcome rates, measures of representativeness, and guidelines for data analysis for 4CV5 data. Refer to the ITC Project website (<https://itcproject.org/>) for country-specific timelines of tobacco control and NVP policies in Australia, Canada, England, and the United States.

2 Methods Statements and Ethics Clearance

Below are method statements for a single wave and for both waves, followed by ethics statements.

2.1 Methods statement for using 4CV5 data only

For earlier waves, see the 4CV4 Technical Report available on the www.itcproject.org website.

Methodological details for each country are available via the ITC website (<https://itcproject.org/methods>). In brief, the ITC Four Country Smoking and Vaping Wave 5 (4CV5) Survey sample comprised the following subsamples: (1) recontact smokers and former smokers who had participated in the 4CV4 Survey, (2) newly recruited current smokers and former smokers (i.e., quit smoking in the previous 24 months) from country-specific panels, irrespective of vaping status, (3) recontact NVP users who had participated in the 4CV4 Survey, and (4) newly-recruited current NVP users (use a vaping device at least weekly) OR heated tobacco product users (use HTP at least weekly) OR snus users (use snus at least-weekly), OR ‘tobacco-free oral nicotine product (TF-ONP) users’ (use tobacco-free oral nicotine at least weekly) from country-specific panels, irrespective of smoking status. The newly-recruited smoker and NVP/HTP/snus/TF-ONP user samples in each country were designed to be representative of smokers and at-least-weekly NVP/HTP/snus/TF-ONP users respectively, and used either probability-based sampling frames or non-probability opt-in sampling frames, or a combination of these methods.

2.2 Methods for using 4CV1-5 data

Methodological details for each country are available via the ITC website (<https://itcproject.org/methods>). In brief, the ITC Four Country Smoking and Vaping Wave 1 (4CV1) Survey sample comprised the following cohorts: (1.1) recontact smokers and former smokers who participated in the previous waves of the ITC 4C Project, irrespective of vaping status, (1.2) newly recruited current smokers and former smokers (quit in the previous 24 months) from country-specific panels, irrespective of vaping status, and (1.3) newly recruited current NVP users (using a vaping device at least weekly) from country-specific panels. The smoker sample in each country was designed to be representative of smokers, and used either probability-based sampling frames or non-probability opt-in sampling frames, or a combination of these.

In the ITC Four Country Smoking and Vaping Wave 2-5 Surveys, most of respondents from the previous waves were invited to participate. Those who did not participate were replaced by newly recruited respondents from the same or similar sources, to maintain approximately the same sample sizes in the following subsamples: (2.1) smokers and former smokers (who had quit smoking in the previous 5 years), irrespective of vaping status; (2.2) current NVP users (using a vaping device at least weekly). At Wave 3, the sample was extended to include at-least-weekly NVP/HTP users; and at Wave 4, the sample was extended to include at-least-weekly NVP/HTP/snus/tobacco-free oral nicotine (TF-ONP) users.

2.3 Ethics Clearance Statement for 4CV5

For earlier waves, see the 4CV4 Technical Report available on the www.itcproject.org website.

The survey protocols and all materials of Wave 5 of the ITC Four Country Smoking and Vaping Survey, including the survey questionnaires, were reviewed and received clearance from research ethics committees at the following institutions: University of Waterloo, Canada (REB#20803/30570, REB#21609/30878); King’s College London, UK (IRB RESCM-17/18-2240); Cancer Council Victoria, Australia (IRB HREC1603), and University of Queensland, Australia (IRB 2016000330/HREC1603, IRB#2022/HE001187). Research ethics committee review was waived at the Medical University of South Carolina. All participants provided informed consent to participate.

Table 2: Datasets available for 4CV1 to 4CV5

| Name | Description | When to use |
|---|--|---|
| <i>For previous waves please see the corresponding technical report posted on the www.itcproject.org website.</i> | | |
| 4CV1 Core Sample | Subsample of the main sample created to unify the former smokers criteria across the 4 countries. Thus, records for respondents from CA, EN, and US who quit over 2 years ago (rather than 5 years) have been removed from the main sample so that the former smoker samples in each country meet the same definition as the eligibility criteria used in AU at 4CV1 (i.e., quit no more than 2 years ago). | <i>The core sample should be used to ensure matching eligibility criteria across AU and the other 3 countries prior to analyzing former smoker samples.</i> |
| 4CV1 Main Sample | <p>= Final 4CV1 sample with data from these groups removed:</p> <ul style="list-style-type: none"> • speeders/satisficers, • long-term former smokers* <ul style="list-style-type: none"> ○ AU – all those quit over 2 years ago ○ CA, EN, US – only those quit over 5 years ago, • AU dedicated vapers sample. <p><i>*Note on former smoker subsamples in the main sample at 4CV1, which vary based on countries:</i></p> <ul style="list-style-type: none"> • In AU, it includes only respondents who had quit less than 2 years ago. • In CA, EN, and US, it includes both respondents who had quit less than 2 years ago, as well as those quit between 2 and 5 years. <p><i>Thus, the main sample of AU former smokers (quit less than 2 years ago, thus all considered “recent”) are defined differently than the main sample of CA, EN, US former smokers (which includes both “recent”= quit less than 2 years ago, and “long-term”= quit between 2 and 5 years ago). The core sample may need to be used when analyzing former smokers’ data.</i></p> | <i>The main sample is the one intended to be used for the vast majority of analyses.</i> |
| 4CV2 Main Sample | <p>Part of the full valid data, with data from these respondents removed:</p> <ul style="list-style-type: none"> • all AU dedicated vapers recruited from 4CV1 or 4CV2, • 5 respondents from CA (3 recontact and 2 replenishment) and 2 recontact respondents from the US. <ul style="list-style-type: none"> ○ all 7 respondents are long-term quitters and not vapers ○ 2 replenishment respondents do not have any weights <p>5 recontact respondents have longitudinal weights, but no cross-sectional weights.</p> | <i>The main sample is the one intended to be used for the vast majority of analyses.</i> |

| Name | Description | When to use |
|-------------------------|--|---|
| 4CV2 Full Sample | <p>This sample includes everybody who completed the survey, with data from these groups removed:</p> <ul style="list-style-type: none"> • 148 speeders/satisficers • 188 respondents with smoking or other status conflict between waves • 9 respondents who do not qualify through being smokers, former smokers, or vapers • 5 recontact respondents who were recruited as replenishment because survey firm(s) could not find their original 4CV1 PIN/ID | <p><i>The full data/sample was created to allow users to:</i></p> <ul style="list-style-type: none"> <i>conduct analyses using all vapers in AU (i.e., to include respondents recruited via the AU dedicated vapers sample)</i> <i>conduct longitudinal analyses that incorporates all respondents for whom a longitudinal weight was computed at 4CV2, that is all respondents who completed the 4CV1 Survey, and who were successfully recontacted at 4CV2. The full data/sample allows for analyses including the 5 recontact respondents who have the longitudinal weights.</i> |
| 4CV3 Main Sample | <p>Part of the full valid data, with data from these respondents removed:</p> <ul style="list-style-type: none"> • all AU dedicated vapers recruited from 4CV1, 4CV2, or 4CV3 • 77 respondents quit smoking more than 5 years ago, and do not use e-cig/HTP (EN=18 ; CA=38; US=21) • 64 AU respondents quit smoking more than 2 years ago, and do not use e-cig/HTP | |
| 4CV3 Full Sample | <p>This sample includes everybody who completed the survey, with data from these groups removed:</p> <ul style="list-style-type: none"> • 90 speeders/satisficers • 197 respondents with smoking or other status conflict between waves • 48 former EN respondents moved out of England • 212 respondents who do not qualify for recruitment requirement were wrongly recruited. <p>Please note a respondent is counted more than once if he/she belongs to 2 or more groups</p> | |

| Name | Description | When to use |
|-------------------------|---|--|
| 4CV4 Main Sample | <p>This sample includes everybody who completed the survey, with data from these groups removed:</p> <ul style="list-style-type: none"> • 71 speeders (CA=24, US=21, EN=21 and AU=5) • 210 respondents (CA:64, US:77, EN:45, AU:24) who have quit smoking over 5 years and are not using any products (HTP, NVP, snus, or TF-OP) currently. • 1 EN respondent is out of survey frame • 11 respondents (CA=5 and US=6) NVP status claimed in the Wave 4 conflicts to the status reported in the previous waves. • 17 EN respondents are considered as fraudulent. | <i>The main sample is the one intended to be used for the vast majority of analyses.</i> |
| 4CV4 Full Sample | <p>This sample includes everybody who completed the survey, with data from these groups removed:</p> <ul style="list-style-type: none"> • 71 speeders (CA=24, US=21, EN=21 and AU=5) • 1 EN respondent is out of survey frame • 11 respondents (CA=5 and US=6) NVP status claimed in the Wave 4 conflicts to the status reported in the previous waves • 17 EN respondents are considered as fraudulent. | <i>To conduct longitudinal analyses incorporating all respondents for whom a longitudinal weight was computed at 4CV4 (i.e., all respondents who completed 4CV3, and who were successfully recontacted at 4CV4).</i> |
| 4CV5 Main Sample | <p>This sample includes everybody who completed the survey, with data from these groups removed:</p> <ul style="list-style-type: none"> • 71 speeders (CA=27, US=25, EN=12, and AU=7) • 4 respondents (CA=1,US=3) NVP status claimed in the Wave 5 conflicts to the status reported in the previous waves • 2 respondents (US) ONP status claimed in the Wave 5 conflicts to the status reported in the previous waves • 1 respondent (CA) didn't provide EC309v information • 4 respondents (US=2, EN=2) didn't hit the submit key. • 159 respondents(CA:58, US:75, EN:12,AU:14) who have quit smoking over 5 years and are not using any products (HTP, NVP, snus, or TF OP) currently. • | <i>The main sample is the one intended to be used for the vast majority of analyses.</i> |
| 4CV5 Full Sample | <p>This sample includes everybody who completed the survey, with data from these groups removed:</p> <ul style="list-style-type: none"> • 71 speeders (CA=27, US=25, EN=12, and AU=7) • 4 respondents (CA=1, US=3) NVP status claimed in the Wave 5 conflicts to the status reported in the previous waves | <i>To conduct longitudinal analyses incorporating all respondents for whom a longitudinal weight was computed at 4CV4 (i.e., all respondents who</i> |

| Name | Description | When to use |
|------|--|--|
| | <ul style="list-style-type: none"> • 2 respondents (US) ONP status claimed in the Wave 5 conflicts to the status reported in the previous waves • 1 respondent (CA) didn't provide EC309v information • 4 respondents (US=2, EN=2) didn't hit the submit key. | <i>completed 4CV3, and who were successfully recontacted at 4CV4).</i> |

3 SAMPLE SIZE AND ELIGIBILITY CRITERIA

3.1 Sample Size

Table 3: 4CV5 sample size (realized, with satisficers removed) by user type, by wave, and by country. Sample sizes for 4CV4 through 4CV2 are also provided for reference, with differences underlined.

| Wave 5 Sample Size | | | | | | | | |
|--|-------------|--------------------|-----------------------------------|---------------------------------|-------------|--------------------|-------------|--------------------|
| Sample groups | Canada | | England | | US | | Australia | |
| User Type | Cohort | Replenish- ment | Cohort (Ipsos UK + Rakuten) | Replenish- ment (Rakuten) | Cohort | Replenish- ment | Cohort | Replenish- ment |
| ITC-owned | 114 | n/a | 88 | n/a | 50 | n/a | 45 | n/a |
| 18+ Smokers/Recent former smokers | 907 | 611 | 301 | 1406 | 1104 | 474 | 667 | 783 |
| 18+ NVP/HTP/snus/TF- ONP users (supplementary) | 222 | 573 | 53 | 439 | 361 | 180 | | |
| Sub-Total | 1243 | 1184 | 442 | 1845 | 1515 | 654 | 712 | 783 |
| Total | 2427 | | 2287 | | 2169 | | 1495 | |

| Wave 4 Sample Size | | | | | | | | |
|---|--------|--------------------|-----------------------------------|---------------------------------|--------|--------------------|-----------|--------------------|
| Sample groups | Canada | | England | | US | | Australia | |
| User Type | Cohort | Replenish- ment | Cohort (Ipsos UK + Rakuten) | Replenish- ment (Rakuten) | Cohort | Replenish- ment | Cohort | Replenish- ment |
| ITC-owned | 159 | n/a | 109 | n/a | 66 | n/a | 82 | n/a |
| 18+ Smokers/Recent former smokers | 1039 | 570 | 784 | 872 | 940 | 668 | 686 | 753 |
| 18+ NVP/ <u>HTP/snus/TF- ONP users</u> (supplementary) | 259 | 157 | 162 | 385 | 264 | 246 | | |
| Sub-Total | 1457 | 727 | 1055 | 1257 | 1270 | 914 | 768 | 753 |
| Total | 2184 | | 2312 | | 2184 | | 1521 | |
| Wave 3 Sample Size | | | | | | | | |
| Sample groups | Canada | | England | | US | | Australia | |
| User Type | Cohort | Replenish- ment | Cohort (Ipsos UK + Rakuten) | Replenish- ment (Rakuten) | Cohort | Replenish- ment | Cohort | Replenish- ment |
| ITC-owned | 224 | n/a | 135 | n/a | 94+61 | n/a | 137 | n/a |
| 25+ Smokers/Recent former smokers | 1036 | 826 | 1156 | 1087 | 935 | 468 | 738 | 616 |
| <u>18-24 Smokers/Recent former smokers</u> | 104 | 641 | 23 | 996 | 55 | 434 | | |
| 18+ NVP/ <u>HTP</u> (supplementary) | 297 | 560 | 272 | 231 | 213+6 | 252 | | |
| Sub-Total | 1661 | 2027 | 1586 | 2314 | 1364 | 1164 | 875 | 616 |
| Total | 3688 | | 3900 | | 2528 | | 1491 | |
| Wave 2 Sample Size | | | | | | | | |
| Sample groups | Canada | | England | | US | | Australia | |

| User Type | Cohort | Replenish- ment | Cohort (Ipsos UK + Rakuten) | Replenish- ment (Rakuten) | Cohort | Replenish- ment | Cohort | Replenish- ment |
|--|-------------|--------------------|-----------------------------------|---------------------------------|-------------|--------------------|-------------|--------------------|
| ITC-owned | 331 | n/a | 204 | n/a | 188 | n/a | 199 | n/a |
| 25+ Smokers/Recent former smokers | 1025 | 1068 | 1179 | 1810 | 892 | 696 | | |
| <u>18-24 Smokers/Recent former smokers</u> | 148 | 515 | 2+90 | 984 | 48 | 516 | | |
| <u>18+ NVP (supplementary)</u> | 364 | 332 | 256 | 323 | 77 | 431 | | |
| Sub-Total | 1868 | 1915 | 1731 | 3117 | 1205 | 1643 | 853 | 662 |
| Total | 3783 | | 4848 | | 2848 | | 1515 | |

Table 4. Sources and sample sizes for 4CV1 respondents.

| Country, subsample | Sources | Main* Sample size | Core* sample |
|--|--|-------------------------|-----------------|
| AU, smokers/former smokers 18+ | ITC 4C cohort (retention rate 43.1%) | 51 5 | 51 5 |
| | Roy Morgan Single Source (probability-based) | 50 4 | 50 4 |
| | Survey Sampling International | 485 | 485 |
| CA, smokers/former smokers 18+ | ITC 4C cohort (retention rate 41.6%) | 567 | 515 |
| | Léger Marketing, where possible from their probability-based panel | 2439 | 2439 |
| CA, additional vapers 18+ | Léger Marketing | 727 | 727 |
| EN, smokers/former smokers 18+ | ITC 4C cohort (retention rate 35.7%) | 254 | 232 |
| | Ipsos | 3519 | 3519 |
| EN, additional vapers 18+ | Ipsos | 551 | 551 |
| US, smokers/former smokers aged 25+ | ITC 4C cohort | 1372 | 1296 |
| | GfK Knowledge Panel (probability based) | 127 | 127 |
| | Ipsos | 212 | 212 |
| US, smokers/formers smokers aged 18-24 | ITC 4C cohort (retention rate 44.2%) | 6 | 6 |
| | Lucid (GfK partner panel, opt-in) | 496 | 496 |
| | Ipsos | 26 | 26 |
| US, additional vapers 18+ | Ipsos | 494 | 494 |
| Total | | 12294 | 12144 |

*Main sample (see Section 6) = Final realized 4CV1 sample with speeders/satisficers removed, long-term former smokers (quit >5y ago) removed, and the AU additional vapers sample removed. *Note on former smoker subsamples in the main sample: In each of CA, EN, and US, cohort respondents who had quit >2y ago were interviewed, while in AU, only respondents who had quit <2y ago were interviewed. Thus, the main sample AU former smokers (quit <2y ago) are defined differently than the main sample CA, EN, US former smokers (quit between 2-5y ago).*

** Core sample (a subsample of the main sample) (see Section 6) = Records for respondents from CA, EN, and US who quit >2y ago have been removed from the main sample so that the former smoker samples in each country meet the same definition. *The core sample should be used for analyzing former smoker samples across AU and other countries.*

3.2 Sample definition and eligibility (inclusion/exclusion) criteria

- Inclusion/exclusion criteria were the same in Canada, England, and the US. In Australia, however, the criteria were different (see [Table 4.1](#), [Table 4.2](#)).
- The sample in each country is specified on three dimensions: Source, cohort status, and user type (by age). These statuses determine fieldwork procedures for each subsample.

Sample Dimension 1: Source

1) ITC-owned cohort:

Sample contact information has been provided directly to ITC. During 4CV5, SCSRU and/or ITC will contact ITC-owned sample directly.

2) Panel-owned:

Sample is provided by a panel firm and may include one or both of cohort and replenishment subsamples. At 4CV5, panel firms will contact panel-owned sample. ITC/SCSRU are not permitted to contact the sample directly.

- **Firms** varied in their **quality of samples**. Some firms had high-quality probability-based samples, and some had opt-in samples, and others a combination of these. For this reason, **approximate quota targets** (based on region, sex, and/or age) were established proportional to national benchmarks to ensure appropriate distributions were realized in the final sample.

Sample Dimension 2: Cohort status

1) Recontact (cohort) sample:

All previous 4CV4 respondents are recontact sample. Inclusion criteria ([Table 4.1](#), [Table 4.2](#)) and procedures differ for the cohort sample compared to the replenishment sample.

2) Replenishment (fresh) sample:

New recruits at 4CV5 make up the replenishment/fresh sample. This sample is recruited to replace respondents (from the recontact sample) who were lost to follow-up. Inclusion criteria ([Table 4.1](#), [Table 4.2](#)) and procedures differ for the cohort sample compared to the replenishment sample.

Sample Dimension 3: User type

- 1) **Current at-least-monthly-cigarette smoker** or a **recent former smoker** (i.e., smoked at least monthly previously, quit in the past 24 months), aged 18y or older
- 2) **Current at-least-weekly NVP/HTP/snus/Tobacco-free Oral Nicotine Product (TF-ONP) user**, aged 18y or older

Notes:

- Eligibility inclusion/exclusion criteria for the survey is based on user type (criteria for Australia was different vs. Canada, England, US) and age, by cohort status vs. replenishment status ([Table 4.1](#), [Table 4.2](#)).
 - In AU, NVP users only are sampled in addition to smokers/recent former smokers.
 - In CA, EN, US, **snus and TF-ONP users** are newly eligible at Wave 5, in addition to NVP/HTP users.
 - **Multi-product users** (smokers who also use NVPs/HTPs/snus/ONPs at least weekly) will be recruited as part of the current NVP/HTP/snus/TF-ONP user quotas or, when full, as part of the cigarette smokers/recent former smokers quotas.
- **Inclusion/exclusion criteria** differed between the [Recontact](#) and the [Replenishment](#) samples ([Table 4.1](#), [Table 4.2](#)).

Table 4.1. Inclusion/exclusion criteria for 4CV5 Canada, England, and US (*but not Australia*).

| Cohort Sample – CA, EN, US only | | |
|--|--|------------------|
| <p>All past ITC-owned and panel-owned 4CV4 respondents were eligible, irrespective of current status, except if:</p> <ol style="list-style-type: none"> 1) they were recruited at or prior to 4CV1 and had not smoked at least monthly or used ANDs as specified below in the last 5 years, 2) they provided poor quality data at 4CV4 or someone else was known to have completed the survey, or 3) they failed the age check. | | |
| Cohort sample eligibility (CA, EN, US only) | | |
| Recruitment Wave status | Screening at 4CV5 | 4CV5 eligibility |
| Recontact or Replenishment sample at 4CV1 (Jul–Oct 2016); 4CV1 status was short-term (quit<24 months ago) or long-term quitter (Recontact only, quit >24 months ago) and non-vaper (vapes not-at-all, less-than-monthly, or monthly). | (Smoked at least monthly at any time between and including 4CV1 to 4CV5), OR (Vaped at least weekly at any time between and including 4CV1 to 4CV5), OR (Used HTP at least weekly at any time between and including 4CV3 to 4CV5), OR (Used snus or TF-ONPs at least weekly at <u>any time between 4CV4 to 4CV5</u>) | Eligible |
| Recontact or Replenishment sample at 4CV1 (Jul–Oct 2016); 4CV1 status was short-term (quit<24 months ago) or long-term quitter (quit >24 months ago) and non-vaper (vapes not-at-all, less-than-monthly, or monthly). | Opposite of above cell. That is... (Smoked less than monthly or not at all at all between 4CV1 to 4CV5), AND (Vaped at less than weekly or not at all at all between and including 4CV1 to 4CV5), AND (Used HTP less than weekly or not at all at all between and including 4CV3 to 4CV5), AND (Used snus or TF-ONPs less than weekly or not at all at all between and including 4CV4 to 4CV5) | Ineligible |
| Recontact sample at 4CV2 (Jul–Oct 2018); 4CV2 status was recent cigarette quitter (quit <24 months ago). | Irrespective of 4CV5 status | Eligible |
| Recruited as replenishment sample at 4CV2 or 4CV3 | Irrespective of 4CV5 status | Eligible |
| <p><i>Note: Smokers who also use NVPs/HTPs/snus/TF-ONPs at least weekly were recruited either as part of the current NVPs/HTPs/snus/TF-ONPs user sample or as part of the smoker/ quitter sample. Programming counted these cases toward the NVPs/HTPs/snus/TF-ONPs sample first and, when full, toward the smoker/quitter sample second.</i></p> | | |
| Replenishment Sample – CA, EN, US only | | |
| <p>Met age, sex, and/or region criteria and user type criteria (below) for an open quota target.</p> <p>User type criteria were:</p> <ol style="list-style-type: none"> 1) Current smoker. Smoke at least monthly, had smoked at least 100 cigarettes; irrespective of NVP/HTP/snus/TF-ONP use. 2) Recent former smoker. Quit smoking in the last 24 months, had smoked at least 100 cigarettes in lifetime; irrespective of NVP/HTP/snus/TF-ONP use. 3) Current NVP, HTP, snus, or tobacco-free oral nicotine product (TF-ONP) user. Use NVPs/HTPs/snus/TF-ONPs at least weekly; irrespective of cigarette smoking. | | |

| Replenishment sample eligibility (CA, EN, US only) | | |
|--|--|---|
| Subsample group | Definition | Definition using 4CV4 variables |
| Smoker OR recent quitter | [Currently smokes cigarettes at least monthly AND smoked at least 100 cigs in lifetime] OR [currently smokes not at all, has quit in the past 24 months, and has smoked at least 100 cigarettes in lifetime] | FR309v=10-31 OR FR309v=40 |
| At-least-weekly NVP, HTP, snus, TF-ONP user | [Currently uses NVP at least weekly] OR [currently uses HTP devices at least weekly] OR [currently uses snus at least weekly] OR [currently uses TF-ONPs at least weekly] | EC309v=10-20 OR HN309v=10-20 OR NC006=1-2 OR BI038=1-2 |

Note: Current at-least-monthly smokers/quitters in the last 24 months who also use NVPs/HTPs at least weekly (i.e., meet definitions for both Smoker/Recent quitter and NVP/HTP user) will be recruited from the same country-specific firms. For new recruits who meet criteria for both subsample groups, they will initially be attributed to the NVP/HTP user sample targets or, when full, will be attributed to the Smoker/Recent quitter sample targets.

Note: Each respondent had a status for: smoking, vaping, HTP use, snus use, and TF-ONP use. Thus, many combinations of the above user types, as well as non-users of one product who use -- or had used -- the other product(s) were possible in the sample.

Table 4.2. Inclusion/exclusion criteria for 4CV5 Australia only.

| Cohort Sample – Australia only | | |
|---|--|------------------|
| All past ITC-owned and panel-owned 4CV4 respondents were eligible, irrespective of current status, except if : | | |
| 1) they were recruited at or prior to 4CV1 and had not smoked at least monthly or used NVP/HTP at least weekly in the last 5 years, 2) they provided poor quality data at 4CV4 or someone else was known to have completed the survey, or 3) they failed the age check. | | |
| Cohort sample eligibility (Australia only) | | |
| Recruitment Wave status | Screening at 4CV5 | 4CV4 eligibility |
| Recontact or Replenishment sample at 4CV1 (Jul–Oct 2016); 4CV1 status was short-term (quit<24 months ago) or long-term quitter (Recontact only, quit >24 months ago) and non-vaper (vapes not-at-all, less-than-monthly, or monthly). | (Smoked at least monthly at any time between and including 4CV1 to 4CV5), OR (Vaped at least weekly at any time between and including 4CV1 to 4CV5), OR (Used HTP at least weekly at 4CV3), | Eligible |
| Recontact or Replenishment sample at 4CV1 (Jul–Oct 2016); 4CV1 status was short-term (quit<24 months ago) or long-term quitter (quit >24 months ago) and non-vaper (vapes not-at-all, less-than-monthly, or monthly). | Opposite of above cell. That is... (Smoked less than monthly or not at all at all between 4CV1 to 4CV5), AND (Vaped at less than weekly or not at all at all between and including 4CV1 to 4CV5), AND (Used HTP less than weekly or not at all at all at 4CV3). | Ineligible |
| Recontact sample at 4CV2 (Jul-Oct 2018); 4CV2 status was recent cigarette quitter (quit <24 months ago). | Regardless of 4CV5 status | Eligible |
| Recruited as a replenishment sample at 4CV2 through 4CV4 | Regardless of 4CV5 status | Eligible |
| Replenishment Sample – Australia only | | |
| Met age, sex, and user type criteria (below) for an open quota target. | | |
| User type criteria were: | | |
| 1) Current smoker. Smoke at least monthly, had smoked at least 100 cigarettes lifetime; irrespective of NVP use. 2) Recent former smoker. Quit smoking in the last 24 months, had smoked at least 100 cigarettes in lifetime; irrespective of NVP use. 3) Current NVP user. Use NVPs at least weekly; irrespective of cigarette smoking. | | |

| Replenishment sample eligibility (Australia only) | | |
|---|---|---------------------------------|
| Subsample group | Definition | Definition using 4CV4 variables |
| Smoker OR recent quitter | [Currently smokes cigarettes at least monthly AND smoked at least 100 cigarettes in lifetime] OR [currently smokes not at all, has quit in the past 24 months, and has smoked at least 100 cigarettes in lifetime] | FR309v=10-31 OR FR309v=40 |
| At-least-weekly NVP user | Currently vaping at least weekly | EC309v=10-20 |

Note: Each respondent had a status for: smoking, vaping, HTP use, snus use, and TF-ONP use. Thus, many combinations of the above user types, as well as non-users of one product who use -- or had used -- the other product(s) were possible in the sample.

| ETM Sample |
|--|
| <p>Main survey Recontact and Replenishment panel-owned sample from CA, EN, or US who were aged 18y or older, and met criteria for one of three user categories:</p> <ol style="list-style-type: none"> 1) Smoker only. Daily cigarette smoker, smoked factory-made cigarettes more than or equal to roll-your-own, not NVP user. 2) Daily smoker/ weekly vaper. Daily cigarette smoker, smoke factory-made cigarettes more than or equal to roll-your-own, weekly NVP users. |

4 SURVEY QUESTIONNAIRE

The survey questionnaire was developed by ITC investigators in collaboration with the project management and survey management teams. Although a core set of questions is included in all 4CV waves; at each wave, the questionnaire is updated to best address the research questions in changing market, environment, and policy contexts while also improving survey respondents' experience as much as possible.

4.1 4CV5 Survey Development Process and Timeline

The ITC survey development process comprises two main phases: 1) Review of survey questions, and 2) Operationalization, with some overlap between phases.

Table 5. 4CV5 Survey development timeline

| Survey review | Survey operationalization |
|--|-----------------------------|
| Round 1: Mar 20, 2023 – July 15, 2023 Round 2: Sep 28, 2023 – Dec 21, 2023 Round 3: Jan 31, 2024 – Apr 30, 2024 | May 15, 2023 – Jul 15, 2024 |

Review of survey questions

During Round 1, five working groups were established for survey content areas based on team members areas of expertise and interest. Each group systematically **reviewed the previous wave's questionnaire** content and made a formal proposal to the larger expert group to delete, add, or revise content. Large-group discussions and review were held during Round 2 where additions and revisions were considered to the survey. Round 3 consisted of deletions to ensure that the survey met the required length of interview.

Survey operationalization

After Round 2 of the systematic review of questions within Phase 1 was completed, the survey draft was sent to the ITC Survey Management Group (SMG) for **operationalization** (Phase 2). Phase 2 involved comprehensively and iteratively reviewing and revising the survey to ensure that routing (i.e., use of filters and skips to show proper set of questions to different users), question wording, response options, and all other survey elements were refined and cross-referenced for consistency, clarity, and accuracy for programming. At the conclusion of Phase 2, the final draft of the survey was generated by SMG and sent to the survey firm for programming and testing.

4.2 4CV5 Survey Content

To update the survey at 4CV5, the previous 4CV4 Survey content was reviewed and revised to delete items no longer of interest or useful in analyses, add items measuring constructs of emerging interest, and revise existing items for improved measurement as applicable ([Table 6](#)). Survey content was rearranged at 4CV5 to accommodate newer content and yet still maintaining comparability to previous 4CV surveys.

- Of the survey content in 4CV5, about 71.6% was from the 4CV4 Survey. About 23.6% new content was added at 4CV4.
- Some new content was asked of only a small proportion of the sample.
- At 4CV5, cohort participants were no longer separated into module (Regmod1 or regmod2) for Cigarette Regulation and for Vaping Regulation as they had been in Waves 3 and 4.
- Additions at 4CV5 included:
 - Defining (and screening for eligibility on at-least-weekly use of) snus and tobacco-free oral nicotine products; and asking about reasons for use, risk perceptions, and hypothetical scenarios under which respondents would use these products.

- Updated questions on cannabis use and co-use with nicotine products.
- The median survey length was **44 minutes**.
- A copy of the survey instrument is available on request or at <http://itcproject.org/surveys>.

Table 6. Measures in the 4CV5 Survey

| |
|--|
| Demographic Variables: Sex, gender, age, ethnicity, education, income, state of health |
| Other personal moderators: Quitting history, nicotine dependence, levels of stress including financial stress and depressed mood, use of intoxicants (<i>e.g.</i> , alcohol, cannabis), time perspective, etc. |
| Environmental moderators: Number of smokers/users in household, and in social network |
| Policy-specific (proximal) measures of FCTC policies (cigarettes) and policies on NVPs/HTPs: <ol style="list-style-type: none"> 1) Article 6 (cigarettes, NVPs, HTPs): Price paid per unit of product, total weekly cost, product type/variant, purchasing unit, price perceptions. 2) Article 14 (cigarettes, NVPs, HTPs): Use of cessation services & recall of advice, use of NVPs/HTPs/other ANDs and/or other medicines in conjunction with professional assistance, advice on appropriateness of NVP/HTP use. 3) Article 13 (cigarettes, NVPs, HTPs): Advertising/ marketing: noticing ads and frequency in key channels (TV, print, internet), susceptibility to advertising, whether NVP/HTP advertising makes respondents think about cigarettes 4) Article 11 (cigarettes, NVPs, HTPs): Health warnings: salience and noticing of health warnings (if any), brand usage, perceived risks, perceived impact on product use; forgoing cigarettes because of warnings. 5) Article 8 (cigarettes, NVPs, HTPs): Smoke-free/vapour-free laws (and/or established policies), exposure to smoking/vaping in key venues, perceived impact laws/policies on product use, reports on restrictions. 6) Product availability (NVPs/HTPs/snus/TF-ONPs): Restrictions on access, perceived availability. 7) Article 9 (mostly NVPs/HTPs): Nicotine content, flavour and other product characteristics: nicotine content and flavours of NVP/HTP brands used, perceived addictiveness of cigarettes/NVPs/HTPs, and appeal of NVPs/HTPs. 8) Article 12 (all): Awareness/recall of media campaigns or information on NVPs/HTPs, and on anti-smoking themes. |
| Psychosocial mediator (distal) variables: Knowledge/awareness/beliefs about harmfulness of cigarettes/NVPs/HTPs/snus/TF-ONPs and nicotine overall, social norms for cigarettes/NVPs/HTPs, outcome expectancies for products, reasons for using NVPs/HTPs/snus/TF-ONPs, self-efficacy and intentions to quit smoking; perceived harmfulness of NVPs/ HTPs/snus/TF-ONPs relative to cigarettes, health concerns, functions of smoking and nicotine use. |
| Tobacco/nicotine use behaviors <p>(Cigarettes, NVPs, HTPs): History and current levels of use: frequency, duration, intensity of use (<i>e.g.</i>, cigarettes per day), usual brand/type of product; history of smoking quit attempts, use of aids, targeted questions about last quit attempt (timing, length, aids used, duration of abstinence, reasons for success/relapse); product switching and reasons for switching (and reasons for starting/quitting NVPs/HTPs).</p> <p>(Emerging ANDs, including snus and TF-ONPs): Current frequency of use, brands used.</p> |

5 Survey Firms

Table 7 summarizes the survey firms and additional teams involved in the 4CV5 fieldwork.

Table 7. 4CV5 Stakeholders and Responsibilities

| Country | Project Management | Programming & Web Hosting | Recontact & Replenishment | Processing Remuneration | Data Management |
|---------|--------------------|---------------------------|-----------------------------|---|-----------------|
| CA | ITC PMG | SCSRU | SCSRU, Leger | ITC Admin Group (ITC-owned) | ITC DMC |
| | | | | Leger (Panel-owned) | |
| EN | ITC PMG | SCSRU | SCSRU, Ipsos UK*, Rakuten** | Logistic Solutions (ITC-owned) | ITC DMC |
| | | | | Ipsos UK*, Rakuten** (Panel-owned) | |
| US | ITC PMG | SCSRU | SCSRU, Ipsos PA, Ipsos UK | ITC Admin Group (ITC-owned) | ITC DMC |
| | | | | Ipsos UK* (panel-owned), Ipsos PA (panel-owned) | |
| AU | ITC PMG | SCSRU | RM** | RM** (ITC-owned) | ITC DMC |
| | | | | RM** (Panel-owned) | |

* Previously known as Ipsos MORI; ** With panel partner(s)

5.1 Description of country survey firms' recruitment procedures

Firms varied in their **quality of sample**. Some firms had high-quality probability-based samples, and some had opt-in samples, and others a combination of these. For this reason, **approximate quota targets** (based on region, sex, and/or age) were established proportional to national benchmarks to ensure appropriate distributions were realized in the final sample.

Each survey firm provided below a description of their panel as it was at the time of the 4CV5 Survey.

5.1.1 Australia - Roy Morgan (RM) and Dynata (previously Survey Sampling International, SSI)

Sample: Australian smokers, recent former smokers, and NVP users.

RM provided the following description for their relevant panels at the time of the 4CV5 Survey: **RM's** tasks in this project were carried out in compliance with ISO 20252 Market, Opinion & Social Research. RM's proprietary survey **Single Source** is representative of the Australian population aged 14y+ in terms of sex, age and geographical location. Sample selection was conducted for Single Source via telephone interviewing using a randomized cluster sampling approach for household selection and a rule of priority approach for respondent selection within the household. Rigorous sampling procedures were applied each month to ensure that respondents reflect the key demographic characteristics of the Australian population. Interviewing for Single Source is conducted weekly, so our sample was replenished continuously.

This survey method also serves as a form of validation for the respondent – we know that someone who claims to be “male, aged 29 years, living in Tamworth, NSW” is indeed that, because we have spoken with him and interviewed him. For 4CV5, RM drew Single Source respondents who were over 18y, interviewed since December 2022 (when fieldwork was conducted for ITC 4CV4), had provided a telephone number for recontact and indicated during their Single Source interview that they smoked factory-made cigarettes (FMC) or NVPs at that time. Those who recently quit smoking would be identified during the computer-assisted telephone interview (CATI) screening survey. By recontacting Single Source respondents who broadly qualified for 4CV, we were able to ensure that the sample would be representative of the Australian smoking population. The sample was then screened via CATI to ensure it met UW’s specifications and were automatically sent an email invitation from the telephone interviewing system, once they qualified for the research and had provided an email address.

Dynata (previously SSI) was RM’s partner to obtain the 4CV5 sample in AU. Dynata panelists were recruited via partnerships with other corporations or invited by banners, invitations and messages. To minimize the impact of different partnerships on survey results, Dynata uses a combination of personality and psychographic characteristics to understand and identify the underlying traits which make a difference in the way people answer survey questions. By asking participants a short set of key questions, Dynata can control the characteristics of people within the sample and allows Dynata to provide an exceptionally consistent sample blend. Dynata also uses digital fingerprinting, to ensure that the same person does not take a survey more than once from the same device.

The CATI recruitment survey for Single Source sample was converted to an online format for Dynata panelists and collected additional personal information (email address, physical address, and best contact number). The questions were phrased in exactly the same manner, although the response options were slightly modified to better suit an online environment. When a Dynata panelist completed the online recruitment survey, their details were transferred into the Roy Morgan redirect survey. Once an hour the redirect survey automatically sent out an invitation to the 4CV4 Survey using the email format provided by UW.

Snowball Sampling was utilized to fill a shortfall of 18-24-year-old respondents (approximately 32 at the time of implementation) toward the end of fieldwork. This age group is a valuable part of the sample. Roy Morgan (and Dynata) had exhausted all potential samples in the 18-24-year-olds. Upon discussion with the University of Waterloo and University of Queensland, it was agreed to obtain the final 32 responses via a snowball sample methodology. Past respondents were approached, in a tiered approach starting with 18-24-year-olds and then 25+ after if needed, to nominate up to 5 respondents who were 18-24 years old and either smoke or vape (or both). Nominated respondents were sent a text message enquiring whether they would participate in the survey, along with a link to a screening survey to ensure eligibility for the 4CV5 AU survey.

5.1.2 Canada - Leger

Sample: Canada smokers, recent former smokers, and NVP/HTP/snus/TF-ONP users

Respondents were selected at random from the Leger web panel to participate in the study.

Leger provided the following description for their panel at the time of the 4CV5 Survey: Leger’s online panel has more than 400,000 members nationally and has a retention rate of 90%. The Leger panel is high-quality because members have largely been sourced from samples considered nationally representative of Canada.

5.1.3 England

5.1.3.1 *Rakuten Insight*

Sample: England smokers, recent former smokers, and NVP/HTP/snus/TF-ONP users

Rakuten Insight's sample in England was recruited through one main panel partner, Dynata (previously known as SSI), Pureprofile (via Dynata), Market Cube (via Dynata), and Panelbase.

Rakuten Insight provided the following description for their relevant panels at the time of the 4CV5 Survey: Rakuten Insight works very closely with its panel partner in UK, which has a variety of sample sources such as panels, web intercept samples, and specialty lists. Each of the recruitment channels delivers a different population and slightly different results, thus increasing diversity and representativeness. The loyalty panels are actively managed, high-quality online access panels built from two decades of experience. Invitation-only recruitment campaigns are run via direct email and achieve this by partnering with over 75 globally recognized consumer and business-facing brands. Additionally, the panels are localized – not just translated – with native language panel support and country-specific reward choices. This ensures participants are attentive and content, resulting in accurate, thoughtful answers and, ultimately, high-quality data. In view of the scope and scale of the 4CV research, two additional approved panel partners, which met Rakuten Insight's quality control procedures, were also used in England to support with the project.

5.1.3.2 *England - Ipsos UK (previously Ipsos MORI)**

Sample: England smokers, recent former smokers, and NVP users

**Ipsos UK also recruited a sample of US smokers and recent former smokers and NVP users. The same description applies for both samples.*

Ipsos UK provided the following description for their relevant panels at the time of the 4CV5 Survey: Ipsos UK's online panels are subject to rigorous recruitment procedures aimed at ensuring accuracy, consistency and non-duplication. To join, panel applicants are validated by a means of sophisticated vetting procedures, using a variety of opt-in recruitment channels. Shortly after joining, panel members' survey-taking behavior is tested, with those most likely to make intentional or unintentional errors on future surveys deactivated. Subsequently, panelists' behavior is monitored and tracked across all surveys. Ipsos UK employs purging procedures based on these data to remove suspects from eligible sampling pools. In view of the scope and scale of the 4CV research, approved panel partners, that met Ipsos UK quality control procedures, were also used in EN (but not in the US) to support with the project.

5.1.4 United States

5.1.4.1 *Ipsos KnowledgePanel® - Authorized Language for Client Involving Descriptions of KnowledgePanel® Methodology*

Sample: US smokers, recent former smokers, and NVP/HTP/snus/TF-ONP users

The survey was conducted using the web-enabled KnowledgePanel®, a probability-based panel designed to be representative of the U.S. population. Initially, participants are chosen scientifically by a random selection of telephone numbers and residential addresses. Persons in selected households are then invited by telephone or by mail to participate in the web-enabled KnowledgePanel. For those who agree to participate, but do not already have Internet access, Ipsos provides at no cost a tablet and data plan. People who already have computers and Internet service are permitted to participate using their own equipment. Panelists then receive unique log-in information for accessing surveys online, and then are sent emails throughout each month inviting them to participate in research.

Ipsos Public Affairs

Ipsos PA provided the following description for their relevant panels at the time of the 4CV5 Survey: Ipsos is an independent market research company controlled and managed by research professionals. Founded in France in 1975, Ipsos has grown into a worldwide research group with a strong presence in all key markets. Ipsos ranks third in the global research industry. At Ipsos we are passionately curious about people, markets, brands and society. We make our changing world easier and faster to navigate and inspire clients to make smarter decisions. We deliver with security, speed, simplicity and substance. We are Game Changers. With offices in 88 countries, Ipsos delivers insightful expertise across six research specializations: advertising, customer loyalty, marketing, media, public affairs research, and survey management. Ipsos researchers assess market potential and interpret market trends. We develop and build brands. We help clients build long-term relationships with their customers. We test advertising and study audience responses to various media and they measure public opinion around the globe. Visit www.ipsos.com/en-us to learn more about Ipsos' offerings and capabilities.

5.1.4.2 *Ipsos UK (previously Ipsos MORI)**

Sample: US smokers and recent former smokers and NVP users

**Ipsos UK also recruited a sample of England smokers, former smokers, and NVP users. The same description applies for both samples (see Section 5.1.3.2 for the panel description provided by Ipsos UK).*

5.1.5 Experimental Tobacco Marketplace (ETM)

5.1.5.1 *Virginia Tech*

As a sub-study of 4CV5 run out of Virginia Tech (VT), they were responsible for recruiting ETM respondents from Canada, England, and the US. VT obtained ethics clearance for the sub-study, as well as programmed and hosted the ETM. This included setting up URLs to redirect from the survey to the ETM sub-study.

6 Study Procedures

6.1 Sample criteria and definitions used in fieldwork

- The sample in each country was specified on three dimensions: Source, cohort status, and user type (described in [Section 3.2](#)). The statuses determined fieldwork procedures for each subsample.

6.2 Phase 1 (Recontact) and Phase 2 (Replenishment) of surveying

- Phase 1, Recontact: The initial phase of fieldwork includes inviting Recontact sample to complete the 4CV5 Survey. After an appropriate time period, a valid retention estimate will be determined. Once retention has plateaued, the Phase 2, Replenishment fieldwork will start.
- Phase 2, Replenishment: Begins when fresh sample are invited to the survey to replace those lost to follow up. Replenishment fieldwork often overlaps with Recontact fieldwork after the initial lead in period.

6.3 Pre-fieldwork procedures for all countries

6.3.1 Ethics review and service agreements

- Study materials and procedures were reviewed and cleared by Research Ethics Committees at all study institutions, with the exception of those that waived ethics review, as described in [Section 2.3](#), prior to initiating fieldwork.
- Service Agreements were executed between all service providers and the University of Waterloo (study lead institution for CA, EN, and US) or the University of Queensland (lead institution for AU) prior to initiating fieldwork.

6.3.2 Programming and testing the 4CV5 Survey and ETM

- The 4CV5 Survey content was provided to firms for review and clearance prior to initiating fieldwork.
- SCSRU programmed and tested the 4CV5 Survey extensively to ensure the system functioned as intended, in collaboration with ITC and panel firms prior to fieldwork.
- VT programmed and tested the ETM to ensure the system functioned as intended, in collaboration with ITC, and panel firms.

6.3.3 Determining Recontact Sample

- The ITC DMC provided data files listing ITC uniqIDs and PanelIDs of valid Recontact sample (i.e., 'speeders' omitted, unsubscribes omitted) to each appropriate survey firm. These people were recontacted and invited to 4CV5.
- Relevant 'smart data' fields for each valid cohort ID were read-into the 4CV5 Survey for routing purposes and/or to determine eligibility at 4CV5.

6.3.4 Predicting Replenishment targets

- ITC worked with panel firms to predict retention and determine initial Replenishment sample estimates prior to the beginning of fieldwork.
- Replenishment target estimates were then monitored and updated during fieldwork as necessary, depending on the actual number Recontact surveys completed ([Appendix B](#)).

6.3.5 Technical set up to direct respondents to and from the survey

- Unique personal identification numbers (PINs) identified survey records in the online survey system. PINs were linked to panel-specific ID numbers and ITC-specific ID numbers in secure files, in order to track participation and remunerate participants, while maintaining confidential survey response data.

- For Recontact sample, PINs were pre-assigned by SCSRU and provided to relevant panel firms.
 - For Replenishment sample, PINs were assigned by the panel firm at the time of recruitment (linkage information was transferred to ITC after fieldwork was completed).
- URLs were used to direct panelists from their home firms to the 4CV5 Survey (hosted at UW) and the ETM (hosted by VT) if relevant.
- Redirecting URLs directed panelists back to their home panel's website in order to be processed as 'survey/ETM completes' and remunerated, or to be processed as 'ineligible' for the survey/ETM.

6.4 Fieldwork procedures - AU ITC-owned and RM-owned Recontact sample

- ITC-owned and RM-owned sample from AU were managed by RM; these respondents met the following definitions:
 - **ITC-owned Recontact sample** had originally been recruited by ITC as current smokers from an RDD sampling frame, had provided their contact information, and agreed to receive requests for participation in future surveys from ITC.
 - **RM-owned Recontact sample** had originally been recruited through RM's Single Source panel since 4C9 or through a panel partner.
- RM managed all communications with their respective panelists, and directed eligible and willing panelists to the 4CV5 Survey.
- ITC provided to RM a list of all eligible AU sample to be recontacted and invited to participate in the follow-up 4CV5 Survey. Past respondents who had provided poor-quality data at 4CV4, who had requested no future contact, or who were no longer on panel, were not recontacted. Any other eligibility criteria were applied during screening at the beginning of the survey.

6.4.1 AU ITC-owned and panel-owned Recontact sample: Interwave reminders, survey invitations, and survey reminders

- **Interwave reminders** were sent to eligible sample before fieldwork started. The interwave reminders highlighted the importance of the survey and described the time commitment and remuneration value ([Table 8](#)). RM's invitations used the ITC logo, a picture of the investigator team, and ITC phrasing that described the importance of the survey, the time commitment and remuneration value, and provided a personalized direct link to the survey.
- **Email survey invitations** were sent to eligible Recontact sample, in batches, beginning on Day 1 of fieldwork. RM's invitations used the ITC logo, a picture of the investigator team, and ITC phrasing that described the importance of the survey, the time commitment and remuneration value, and provided a personalized direct link to the survey.
- **Email reminders** were sent to all panelists who had been invited but not yet completed the survey on Days 3, 8, 10, and 15, as needed (note: Day 1 is the day the initial email invitation was sent). An additional email reminder was sent a few days prior to fieldwork closing to alert any panelists who wished to submit their surveys.
- RM's contact information was provided in email invitations and reminders, and in the survey, so that cohort panelists could contact the panel or to opt out. Contact information for the principal investigator and an ethics contact person was provided in the survey, and in some email invitations/reminders.

6.4.2 AU ITC-owned and panel-owned Recontact sample: Phone reminders

- In order to improve the survey response, phone reminders were conducted using a pre-determined calling priority list:
 - Those who had provided an email address, but the 4CV5 email invitation bounced back.
 - Those who had not accessed the web survey after 1 week from the date of the email reminder.

- A maximum of 7 call attempts were made; on the 7th call attempt, the interviewer left an appropriate voicemail message, and then no further attempts were made to contact the intended participant.
 - Standard best practices were followed to ensure safety and confidentiality.
- 6.4.3 AU ITC-owned and panel-owned Recontact sample: Remuneration
- Remuneration was dependent on completing the 4CV5 Survey. See [Table 8](#) for values.
- 6.4.4 AU ITC-owned and panel-owned Recontact sample: Technical support
- RM's contact information was provided in recruitment emails and the 4CV5 Survey, for technical support and/or comments.
 - RM's toll-free number for was also provided in recruitment emails and the 4CV5 Survey, and a staff person was designated to check messages on the toll-free number on a daily basis during fieldwork.
 - RM responded to any queries within 48 hours.
- 6.5 **AU Replenishment Procedures—Panel-owned Respondents**
- To account for attrition and maintain the target sample size, new respondents were recruited at 4CV4.
 - ITC DMC provided RM with updated replenishment targets, at appropriate intervals during the fieldwork period as the actual retention rate (of Recontact sample) became known.
 - The replenishment sample was recruited from RM Single Source (via CATI), Dynata (online), and via snowball recruitment (18-24-year-olds) prior to being redirected to the 4CV5 Survey.
 - RM/Dynata emailed their panelists who met preliminary eligibility criteria and provided them with a personalized link to the 4CV4 Survey.
 - RM was in charge of the snowball recruitment procedure.
 - The final screening and allocation to quotas took place within the survey.
 - **Preliminary eligibility criteria** were:
 - Any panelist who had reported being a smoker or former smoker at any panel update in the past 24 months.
 - Any panelist who had reported being a NVP user who screens as vaping at least weekly.
- 6.5.1 AU Replenishment sample quota targets
- [Appendix B.1](#) describes the AU Replenishment sample quota targets.
- 6.5.2 AU panel-owned Replenishment sample: Interwave reminders, survey invitations, and survey reminders
- **Email survey invitations** were sent to panel-owned Replenishment sample who met preliminary criteria in batches until the Replenishment targets with the corresponding sample characteristics were attained. RM's invitations used the ITC logo, a picture of the investigator team, and ITC phrasing that described the importance of the survey, the time commitment and remuneration value, and provided a personalized direct link to the survey.
 - **Email reminders** were sent to all panelists who had been invited but not yet completed the survey on Days 3, 8, 10, and 15, as needed (note: Day 1 is the day the initial email incitation was sent). An additional email reminder was sent a few days prior to fieldwork closing to alert any panelists who wished to submit their surveys. Email reminders used the ITC logo, a picture of the investigator team, and ITC phrasing that described the importance of the survey, the time commitment and remuneration value, and provided a personalized direct link to the survey.
 - RM's contact information was provided in email invitations and reminders, and in the survey, so that cohort panelists could contact the panel or to opt out. Contact information for the principal

investigator and an ethics contact person was provided in the survey, and in some email invitations/reminders.

6.5.3 AU panel-owned Replenishment sample: Remuneration procedures

- Remuneration was dependent on completing the 4CV5 Survey. See [Table 8](#) for values.
- Additional remuneration was provided to past respondents who successfully nominated an 18-24 year old participant during the snowball recruitment period.

6.5.4 AU panel-owned Replenishment sample: Technical support

- RM's contact information was provided in recruitment emails and the 4CV5 Survey, for technical support and/or comments.
- RM's toll-free number for was also provided in recruitment emails and the 4CV5 Survey, and a staff person was designated to check messages on the toll-free number on a daily basis during fieldwork.
- RM responded to any queries within 48 hours.

6.6 Fieldwork Procedures - CA, EN, and US ITC-owned Recontact sample

- All ITC-owned sample are Recontact sample
- ITC-owned sample from CA, EN, and the US were managed by the SCSR; these respondents met the following definitions:
 - **ITC-owned 4C cohort:** ITC-owned respondents who participated at 4CV4 and who were originally recruited *from a telephone RDD sampling frame* at their first 4C Survey, and
 - **New ITC-owned:** Respondents recruited from a US opt-in panel partner at 4CV1 or 4CV2.
- ITC provided to SCSR a list of all eligible ITC-owned sample to be recontacted and invited to participate in the follow-up 4CV5 Survey.
 - Past respondents who had provided poor-quality data at 4CV4, who had requested no future contact, or whose contact information were outdated, were not recontacted. Any other eligibility criteria were applied during screening at the beginning of the survey.

6.6.1 CA, EN, and US ITC-owned Recontact Sample: Interwave reminders, survey invitations, and survey reminders (email vs. letter)

- As of the completion of Wave 4, all communications with the cohort are now via email, as following Wave 4, no respondent remains in the sample who has not provided an email address.
 - Cohort members were sent a pre-fieldwork interwave email reminder, an email invitation, and were placed on an email reminder schedule. Some of them also qualified for a reminder call.
- Contact information for the SCSR, an ethics committee representative, and a study investigator were provided in all invitations, reminders, and in the survey. Cohort members could phone or send a message to update their contact information or to opt out of the study.
- **Interwave reminders** were sent eligible sample approximately 2 weeks before the fieldwork start date. The reminders highlighted the importance of the survey and reminded them of the remuneration that they would get for submitting a complete survey.
- **Email survey invitations** were sent to eligible ITC-owned cohort members (with an email on file), in batches, beginning on Day 1 of fieldwork. Invitations described the study and invited the respondent to participate by clicking on a personalized direct link to the survey.
- **Email reminders** were sent to all ITC-owned cohort members who had been invited but not yet completed the survey on Days 3, 8, 10, and 15, (*Note: Day 1 is the day the initial email invitation is sent*).
- About one week before the survey was to close, one last reminder email was sent to all outstanding invited respondents who had not submitted a completed survey **IF** they had not responded stating that they did not wish to participate/wished to withdraw.

6.6.2 CA, EN, and US ITC-owned Recontact sample: Phone reminders

- **3-4 weeks after the start of fieldwork**, SCSRU implemented phone reminders based on a pre-established calling priority list:
 - Those who did not provide an email address at 4CV4 and completed last wave by phone.
 - Those who provided an email address, but the 4CV5 email invitation bounced back, and completed last wave by phone.
 - Those who provided a valid email address and completed last wave by phone.
 - Those who provided an email address, but the 4CV5 email invitation bounced back, and completed last wave by web, including those from the new ITC-owned group.
 - Those who received a reminder call and completed the survey by web later during fieldwork at 4CV4.
 - Those who had not accessed the web survey after 3-4 weeks in the field, including those from the new ITC-owned group.
 - Partial completes.
- A maximum of 7 call attempts were made. On the 1st and 7th call attempts, the interviewer left an appropriate voicemail message.
- SCSRU provided guidelines to their interviewers on how to call respondents on cell phones to ensure safety and confidentiality.

6.6.3 CA, EN, and US ITC-owned Recontact sample: Remuneration

- Remuneration was dependent on completing the 4CV5 Survey. See [Table 8](#) for values.

6.6.4 CA, EN, US ITC-owned Recontact sample: Technical support

- SCSRU's contact information appeared both in the correspondence to the respondents and in the survey.
- Respondents from each country were able to send email messages to the SCSRU for technical support requests and/or comments.
- There was only one toll-free number servicing North America (and no toll-free number for England) at Wave 5. SCSRU designated a staff person to check messages on the toll-free number on a daily basis during the fieldwork period and respond to messages as needed.

6.7 Fieldwork Procedures – CA, EN, and US Panel-owned Recontact sample

- The **panel-owned Recontact sample** included panelists recruited into the study by one of the following survey firms at 4C9-10 or 4CV1-4:
 - CA: Leger
 - US: Ipsos PA*; Ipsos UK (previously Ipsos MORI)
 - EN: Ipsos UK (previously Ipsos MORI), Rakuten**Respondents recruited from Ipsos PA's KnowledgePanel are "panel-owned". Those recruited through the US opt-in panel partner at 4CV1 and 4CV2 were transferred to ITC, and hence were "ITC-owned" at subsequent waves.*
- Panel firms managed all communications with their respective panelists and directed eligible willing panelists to the 4CV5 Survey and ETM.
- ITC provided to each panel firm a list of all eligible panel-owned sample to be recontacted and invited to participate in the follow-up 4CV5 Survey.
 - Past panelist respondents who had provided poor-quality data at the previous wave, who had requested no future contact, or who were no longer on panel, were not recontacted. Any other eligibility criteria were applied during screening at the beginning of the survey.

- 6.7.1 Panel-owned Recontact sample: Interwave reminders, survey invitations, and survey reminders
- Panel firms' invitation and reminder email templates either followed their standard templates (different from ITC templates), or incorporated ITC's recommended phrasing ([Appendix E](#)).
 - Panel firm details were provided in the email invitations and reminders, and in the survey, so that cohort panelists could contact the panel or to opt out.
 - Contact information for the principal investigator and an ethics contact person was provided in the survey, and in some email invitations/reminders.
 - **Interwave reminders** were sent to eligible sample before fieldwork started. The interwave reminders highlighted the importance of the survey and described the time commitment and remuneration value.
 - **Email survey invitations** were sent to eligible panel-owned Recontact sample, in batches, beginning on Day 1 of fieldwork. Invitations described the time commitment and remuneration value for the 4CV5 Survey, and provided a personalized direct link to the survey.
 - **Email reminders** were sent to all panelists who had been invited but not yet completed the survey per their respective panel firm's standard schedule, or at intervals determined in consultation with the ITC team, depending on survey activity.
- 6.7.2 Remuneration
- Remuneration was dependent on completing the 4CV5 Survey. See [Table 8](#) for values.
- 6.7.3 Technical support
- Contact information for panelists' home panel firms were provided in recruitment emails and the 4CV5 Survey, for technical support and/or comments.
 - If applicable, the home panel firm's toll-free number for was also provided in recruitment emails and the 4CV5 Survey, and a staff person was designated to check messages on the toll-free number on a daily basis during fieldwork.
 - Survey firms were responsible to respond within 48 hours.
- 6.8 **Fieldwork Procedures - CA, EN, and US Panel-owned Replenishment sample**
- To account for attrition and maintain the target sample size in each country, new respondents were recruited at 4CV5.
 - ITC DMC provided each survey firm with updated replenishment targets, at appropriate intervals during the fieldwork period as the actual retention rate (of Recontact sample) became known.
 - **Preliminary eligibility criteria** for new recruits were determined from the survey firms' (Leger, Ipsos PA, Rakuten) existing knowledge of the panelists:
 - Any panelist who had reported being a smoker or former smoker at any panel update in the past 24 months, i.e., met preliminary eligibility criteria for a smoker/recent former smoker.
 - Any panelist who had reported being a NVP/HTP user and who screened into the survey as using NVP/HTP at least weekly.
 - Any other eligibility criteria were discussed and determined in consultation with the ITC Team.
 - The panel firms emailed panelists who met preliminary eligibility criteria and provided them with a personalized link to the 4CV5 Survey.
 - The final screening and allocation to Replenishment sample target quotas took place within the survey.
- 6.8.1 Replenishment sampling quotas
- See Appendix B for the replenishment sample quotas by country.

6.8.2 Panel-owned Replenishment sample: Survey invitations and reminders

- Panel firms' invitation and reminder email templates either followed their standard templates (different from ITC templates), or incorporated ITC's recommended phrasing ([Appendix E](#)).
- Panel firm details were provided in the email invitations and reminders, and in the survey, so that panelists could contact the panel or to opt out.
- Contact information for the principal investigator and an ethics contact person was provided in the survey, and in some email invitations/reminders.
- **Email survey invitations** were sent to panel-owned Replenishment sample who met preliminary criteria in batches until the Replenishment targets with the corresponding sample characteristics were attained. Invitations described the time commitment and remuneration value for the survey, and provided a personalized direct link to the survey.
- **Email reminders** were sent to all panelists who had been invited but not yet completed the survey per their respective panel firm's standard schedule, or at intervals determined in consultation with the ITC team, depending on survey activity.

6.8.3 Remuneration

- Remuneration was dependent on completing the 4CV5 Survey. See [Table 8](#) for values.

6.8.4 Technical support

- Contact information for panelists' home panel firms were provided in recruitment emails and the survey, for technical support and/or comments.
- The home panel firm provided technical support contact information in recruitment emails and the survey.

6.9 Study Remuneration

- Participants were required to submit their survey before being provided remuneration.
- Remuneration varied by sample source ([Table 8](#)).

Table 8. Summary of 4CV5 remuneration by country and sample source

| Country/Panel | 4CV5 Survey Remuneration | Processing responsibility |
|---|--|---------------------------|
| AU | | |
| 'ITC-owned' respondents (all Recontact) | AU \$40 e-gift card | RM |
| RM/Dynata panelists (Recontact, Replenishment) | RM (Recontact, Replenishment): AU \$40 e-gift card Dynata (Recontact, Replenishment): AU \$10 worth of points | RM Dynata |
| CA | | |
| 'ITC-owned' respondents (all Recontact) | Cheque* for CA\$28 (\$25 + \$3 bonus) | UW admin |
| Leger panelists (Recontact, Replenishment) | Recontact: CA \$30 (\$25 + \$5 bonus) worth of points Replenishment: CA \$25 worth of points | Leger |
| EN | | |
| 'ITC-owned' respondents (all Recontact) | £18 (£16 + £2 bonus) Amazon e-gift card | Logistic Solutions |
| Ipsos UK (all Recontact) | £18 worth of points | Ipsos UK |
| Rakuten (Recontact, Replenishment) | Replenishment: Standard credit for a survey of this length + additional bonus of £2.50 worth of points, with promise of an additional bonus of <u>up to</u> £15 worth of points after they complete the next wave's survey. Recontact: Standard credit for a survey of this length + £15 bonus. | Rakuten, Dynata |
| US | | |
| 'ITC-owned' respondents (all Recontact) | Check* for US \$28 (\$25 + \$3 bonus) | UW admin |
| Ipsos PA panelists (Recontact, Replenishment) | Recontact: 13,000 (10,000 + 3,000 bonus) points Replenishment: 13,000 (10,000 + 3,000 bonus) points | Ipsos PA |
| Ipsos UK (all Recontact) | US \$28 (\$25 + \$3 bonus) worth of points | Ipsos UK |

** An Amazon e-gift card could be provided if requested by respondent and authorization given to input their email on a third party website.

7 Targets and Outcomes

This chapter presents summaries of recruitment numbers:

- Total completed surveys and cases removed ([Table 9](#))
- Target vs. realized sample sizes ([Table 10](#))
- Sample sizes and retention rates, by source ([Table 11](#))
- Outcome rates by country, for new recruits ([Table 12](#))
- Survey length by user type and country ([Table 13](#))

Table 9. 4CV5 sample: All completed surveys vs. cases in the “Full Sample Dataset”* vs. cases in the “Main Sample Dataset”**. Note: Categories of cases removed

| | AU | CA | EN | US | Total |
|---|------|------|------|------|-------|
| Raw number of completed cases | | | | | |
| All completed surveys | 1502 | 2456 | 2301 | 2201 | 8460 |
| Cases removed to obtain the Full Sample Dataset* | | | | | |
| <i>Note: Categories are not mutually exclusive.</i> | | | | | |
| Speeders | 7 | 27 | 12 | 25 | 71 |
| Smoking or other status conflict between waves | 0 | 1 | 0 | 5 | 6 |
| Do not qualify for recruitment requirement | 0 | 1 | 0 | 0 | 1 |
| Did not hit submit button at end of survey | 0 | 0 | 2 | 2 | 4 |
| FULL SAMPLE DATASET | | | | | |
| Cases included in Full Sample Dataset* | 1495 | 2427 | 2275 | 2169 | 8378 |
| Cases removed to obtain Main Sample Dataset** | | | | | |
| <i>Note: Categories are not mutually exclusive.</i> | | | | | |
| Quit over 5 years (and no NVP use) | 14 | 58 | 12 | 75 | 159 |
| MAIN SAMPLE DATASET | | | | | |
| Cases included in Main Sample Dataset** | 1481 | 2369 | 2275 | 2094 | 8219 |

***Full Sample Dataset** = completed cases excluding cases listed in the table.

****Main Sample Dataset** = full data excluding quitters quit >5 years.

Table 10. 4CV5 target sample sizes and (realized sample sizes) in the Full Sample Dataset*, by country

| Subsample | CA | EN | US | AU |
|------------------------------------|-------------|-------------|-------------|----------------|
| Main survey | | | | |
| Smokers/former smokers aged 18+ | 1650 (1632) | 1800 (1655) | 1650(1628) | 1500 (1495) |
| At-least-weekly NVP users aged 18+ | 802 (795) | 500 (492) | 500 (541) | |
| Total | 2452 (2427) | 2300 (2287) | 2150 (2169) | 1500 (1495) |

* Full sample = Final realized 4CV5 sample. Excluded cases are listed in [Table 9](#).

Table 11. Sources, Full Sample Dataset sample size ^{***}, and retention rates for 4CV5 respondents

| Country | Subsample/ user type | Sources | Eligible sample from 4CV43 | Retention (%) | Recontact (n) | Replenishment (n) | Total (n) |
|-------------------|-------------------------------------|-----------------------------|-------------------------------------|------------------|------------------|----------------------|--------------|
| AU | Smokers/Former Smokers 18+ *** | ITC-owned | 82 | 54.9 | 45 | 0 | 45 |
| | | Roy Morgan | 1429 | 46.7 | 667 | 783 | 1450 |
| | AU Sub-Total | | 1521 | 46.8 | 712 | 783 | 1495 |
| CA | Smokers/Former Smokers 25+ | ITC-owned**** | 159 | 71.7 | 114 | 0 | 114 |
| | | Leger Marketing | 1459 | 60.4 | 881 | 567 | 1448 |
| | Smokers/Former Smokers 18-24 | Leger Marketing | 150 | 18.6 | 26 | 44 | 70 |
| | NVP, HTP, snus, TF-ONP users 18+ | Leger Marketing | 416 | 53.4 | 222 | 573 | 795 |
| | CA Sub-Total | | 2184 | 56.9 | 1243 | 1184 | 2427 |
| EN | Smokers/Former Smokers 25+ | ITC-owned | 109 | 80.7 | 88 | 0 | 88 |
| | | Ipsos UK | 386 | 47.2 | 182 | 0 | 182 |
| | | Rakuten | 1178 | 9.8 | 115 | 1270 | 1385 |
| | Smokers/Former Smokers 18-24 | ITC-owned | 0 | 0 | 0 | 0 | 0 |
| | | Ipsos UK | 0 | 0 | 0 | 0 | 0 |
| | | Rakuten | 92 | 4.3 | 4 | 136 | 140 |
| | NVP, HTP, snus, TF-ONP users 18+ | Ipsos UK | 87 | 52.9 | 46 | 0 | 46 |
| | | Rakuten | 423 | 1.7 | 7 | 439 | 446 |
| | EN Sub-Total | | 2312 | 19.1 | 442 | 1845 | 2287 |
| US | Smokers/Former Smokers 25+ | ITC-owned**** | 66 | 75.8 | 50 | 0 | 50 |
| | | Ipsos PA | 1519 | 69.0 | 1049 | 468 | 1517 |
| | | Ipsos UK | 16 | 56.3 | 9 | 0 | 9 |
| | | ITC-owned (prev. opt-in) | 51 | 82.4 | 42 | 0 | 42 |
| | Smokers/Former Smokers 18-24 | ITC-owned | 0 | 0 | 0 | 0 | 0 |
| | | US opt-in | 0 | 0 | 0 | 0 | 0 |
| | | Ipsos PA | 12 | 25 | 3 | 6 | 9 |
| | | ITC-owned (prev. opt-in) | 10 | 10 | 1 | | 1 |
| | NVP, HTP, snus, TF-ONP users 18+ | Ipsos PA | 492 | 71.1 | 350 | 180 | 530 |
| | | US opt-in | 0 | 0 | 0 | 0 | 0 |
| | | ITC-owned (prev. opt-in) | 2 | 50 | 1 | 0 | 1 |
| | | Ipsos UK | 16 | 62.5 | 10 | 0 | 10 |
| | US Sub-Total | | 2184 | 69.4 | 1515 | 654 | 2169 |
| Full Sample Total | | | 8201 | 47.7% | 3912 | 4466 | 8378 |

*Full Sample Dataset = Realized 4CV5 sample (excludes low quality records, but includes >5year quitters). See [Table 9](#) for the Main Sample Dataset (for which >5year quitters have been excluded).

*** In Australia, there was no split quota for smokers, recent former smokers and NVP users. Although NVP users were not specifically targeted, they were kept in the sample if recruited.

Table 12. Response rates and cooperation rates for new recruits at 4CV5, by country.

| | Australia | | England | | Canada | | US | |
|--|-----------|------|---------|------|--------|------|-------|-----|
| | Freq | % | Freq | % | Freq | % | Freq | % |
| A – Interviewed | | | | | | | | |
| Total (interviewed) | 788 | 39.9 | 1,856 | 3.8 | 1,203 | 5.9 | 670 | 10 |
| B – Eligible, but not interviewed | | | | | | | | |
| Refusal/breaks off | 6 | 0.3 | 124 | 0.3 | 87 | 0.4 | 20 | 0 |
| Other | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0 |
| Total (eligible but not interviewed) | 6 | 0.3 | 124 | 0.3 | 87 | 0.4 | 20 | 0 |
| C – Unknown if eligibility (not interviewed) | | | | | | | | |
| Estimated number of eligible and quota not full*1 | 777 | 39.4 | 12,262 | 25.4 | 4,010 | 19.8 | 165 | 2 |
| Estimated number of not eligible or quota full*2 | 204 | 10.3 | 30,305 | 62.8 | 11,476 | 56.7 | 1,766 | 25 |
| Total (unknown if eligible) | 981 | 49.7 | 42,567 | 88.3 | 15,486 | 76.5 | 1,931 | 28 |
| D – Not eligible | | | | | | | | |
| Out of sample | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0 |
| Respondent was found not to be eligible by SCSRU | 56 | 2.8 | 2,812 | 5.8 | 3,381 | 16.7 | 3,840 | 55 |
| Respondent was found not to be eligible by survey firm | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0 |
| Quota full | 143 | 7.2 | 860 | 1.8 | 86 | 0.4 | 541 | 8 |
| Other | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0 |
| Total (not eligible) | 199 | 10.1 | 3,672 | 7.6 | 3,467 | 17.1 | 4,381 | 63 |
| Total sample with final disposition | 1,974 | 100 | 48,219 | 100 | 20,243 | 100 | 7,002 | 100 |
| Estimated eligibility rate*3 | 93.4% | | 41.3% | | 27.6% | | 15.2% | |
| Estimated proportion for which quota was full*4 | 15.3% | | 30.3% | | 6.3% | | 43.9% | |
| Response rate*5 | 50.2% | | 13.0% | | 22.7% | | 78.4% | |
| Cooperation rate*6 | 99.2% | | 93.7% | | 93.3% | | 97.1% | |

Notes:

*1 Estimated number of respondents that would have been eligible and for which the corresponding quota would not have been full
Formula: row 22 x row 34 x (1 - row 35), rounded to the nearest integer

*2 Formula: row 22 - row 20

*3 Estimated proportion of individuals that were found to be eligible

Formula: 1 - row 26 / (row 12 + row 17 + row 26)

*4 Estimated proportion of individuals that were terminated because the corresponding quota was full

Formula: row 28 / (row 12 + row 17 + row 28)

*5 The response rate is the proportion of eligible respondents who complete the survey; i.e., the number of eligible respondents who completed the survey divided by the estimated number of eligible respondents that were selected/contacted. In other words, the response rate accounts for the fact that numerous individuals could not be contacted or screened for eligibility, whereas the cooperation rate does not.

Formula: row 12 / (row 12 + row 17 + row 20)

Different survey firms used different screening process before sending respondents to the 4CV Survey. Consequently, the estimated eligibility rates (see row 34) differ greatly from one firm/country to another. Because of this (and a few other lesser reasons), the response rates are not comparable across countries/firms.

*6 The cooperation rate is the proportion of eligible respondents (i.e., those who have completed all eligibility questions and have been found to be eligible) who complete the survey.

Formula: row 12 / (row 12 + row 15)

The above formula for the cooperation rate is the same as the AAPOR COOP4 formula; see [https://www.aapor.org/Standards-Ethics/Standard-Definitions-\(1\).aspx](https://www.aapor.org/Standards-Ethics/Standard-Definitions-(1).aspx)

Contrary to the response rates, the cooperation rate are comparable across countries.

Table 13. 4CV5 survey length in minutes, by user type and by country.*

| | AU | | CA | | EN | | US | | Overall | |
|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | n | median | n | median | n | median | n | median | n | median |
| Smokers only | 731 | 47.3 | 925 | 44.7 | 773 | 39.4 | 1013 | 45.5 | 3442 | 44.4 |
| NVP users only | 81 | 45.9 | 158 | 37.3 | 106 | 37.1 | 216 | 41.2 | 561 | 39.8 |
| Concurrent users | 378 | 59.6 | 848 | 45.9 | 1140 | 47.9 | 354 | 52.2 | 2720 | 49.3 |
| Quitters | 305 | 45.1 | 496 | 38.1 | 268 | 39.4 | 586 | 39.1 | 1655 | 40.0 |
| Overall | 1495 | 49.0 | 2427 | 43.2 | 2287 | 42.8 | 2169 | 43.7 | -- | -- |

* The questionnaire differed somewhat from country to country.

8 ANDS Image Upload Sub-study

There were two sub-studies at 4CV5

- 1) ANDS Image upload sub-study: Participants from all countries who used one or more of the following products at least weekly – NVPs, HTPs, snus, or TF-ONPs -- and who completed their main survey on a tablet or smart phone were invited the ANDS Image Upload Sub-study.
- 2) Experimental Tobacco Marketplace (ETM): In Canada, England, and the US, an Experimental Tobacco Marketplace (ETM) Sub-study recruited a limited number of respondents from the 4CV3 Survey.

8.1 ANDs Image Upload Sub-study

For the 4CV5 Survey, we recruited cigarette smokers/recent former smokers and users of 4 specific classes of ANDs. The 4CV5 Screening Section describes the physical characteristics of each of the five product types – cigarettes, NVPs, HTPs, snus (contrasted against other oral tobacco products), and TF-ONPs – provide country-specific examples and images of each product type. However, for some respondents, the distinction between vaping products and heated tobacco products may not be entirely clear.

Thus, the purpose of the ANDs Image Upload Sub-study is to validate if respondents accurately self-classify as NVP users compared to HTP users, or accurately as snus or tobacco-free oral tobacco users. Self-reported use in the survey is validated (i.e., classified as a ‘match’ vs. ‘mismatch’) against images of their products provided by survey respondents as well as against the brand information provided by respondents’ 4CV5 survey responses.

8.1.1 ANDs Image upload Sub-study sample and eligibility criteria

At the end of the 4CV5 Survey, respondents who used NVPs, HTPs, snus, or TF-ONPs at least weekly and who had completed the survey on a tablet or smart phone were asked to upload a picture of their device and refill product (e.g., e-liquid, or IQOS heatsticks, etc.). If a respondent reported using more than one of NVPs, HTPs, snus, or tobacco-free ONPs at least weekly (and met the criteria for tablet/smart phone) they were asked to provide a picture of each product separately.

8.1.2 ANDs Image upload Sub-study sample procedures

- 1) Eligible sample were shown the survey variables below.

| Varname | 4CV5 Question |
|---------|---|
| AI800 | <p>Ask if EC309v=10-32 and device type=mobile or tablet.</p> <p>Please upload a picture of [all of the vaping devices (with their e-liquids) that you currently use (EC309v=10-20)/ the vaping device and e-liquid that you used last (EC309v=31-32)].</p> <p>In a single photo, please:</p> <ul style="list-style-type: none">* Include [all currently-used (EC309v=10-20)/ the last-used (EC309v=31-32)] vaping device(s) and e-liquid(s), and* Ensure brand name(s) are visible. <p>Are you willing to upload a photo of your device(s) and e-liquid(s)?</p> <ol style="list-style-type: none">1 Yes2 No8 Refused <p><i>Maximum upload size is 5 MB.</i></p> |
| AI801 | <p>Ask if AI800=1.</p> <p>Please tell us anything we should know about the picture you have uploaded.</p> <p>[open text field]</p> <p><i>If you don't have any comments, please type in 'NONE'.</i></p> |
| AI805 | <p>Ask if HN309v=10-32 and device type=mobile or tablet.</p> |

| | |
|-------|--|
| | <p>EC309v=10-32: Earlier, you told us that you use both vaping devices and heated tobacco products...</p> <p>All: Please upload a picture of [all of the heated tobacco devices that you currently use including the tobacco sticks/pods (HN309v=10-20)/ the heated tobacco device that you used last including its tobacco sticks/pods (HN309v=31-32)].</p> <p>In a single photo, please:</p> <p>* Show [all of the heated tobacco devices that you currently use including the tobacco sticks/pods (HN309v=10-20)/ the heated tobacco device that you used last including its tobacco sticks/pods (HN309v=31-32)], and</p> <p>* Ensure brand name(s) are visible</p> <p>Are you willing to upload a photo of your device(s) and tobacco sticks/ pods/ capsules?</p> <p>1 Yes</p> <p>2 No</p> <p>8 Refused</p> <p><i>Maximum upload size is 5 MB.</i></p> |
| AI806 | <p>Ask if AI805=1.</p> <p>Please tell us anything we should know about the picture you have uploaded.</p> <p>[open text field]</p> <p><i>If you don't have any comments, please type in 'NONE'.</i></p> |
| AI820 | <p>Ask if NC006=1-3 and device type=mobile or tablet.</p> <p>Please upload a picture of all of the snus product(s) that you currently use.</p> <p>In a single photo, please:</p> <p>* Show all of the snus product(s) and</p> <p>* Ensure brand name(s) are visible</p> <p>Are you willing to upload a photo of your snus product?</p> <p>1 Yes</p> <p>2 No</p> <p>8 Refused</p> <p><i>Maximum upload size is 5 MB.</i></p> |
| AI824 | <p>Ask if AI820=1.</p> <p>Please tell us anything we should know about the picture you have uploaded.</p> <p>[open text field]</p> <p><i>If you don't have any comments, please type in 'NONE'.</i></p> |
| AI827 | <p>Ask if BI038=1-3 and device type=mobile or tablet.</p> <p>Please upload a picture of all of the tobacco-free oral nicotine product(s) that you currently use.</p> <p>In a single photo, please:</p> <p>* Show all of the tobacco-free oral nicotine product(s) and</p> <p>* Ensure brand name(s) are visible</p> <p>Are you willing to upload a photo of your tobacco-free oral nicotine product(s)?</p> <p>1 Yes</p> <p>2 No</p> <p>8 Refused</p> <p><i>Maximum upload size is 5 MB.</i></p> |
| AI831 | <p>Ask if AI827=1.</p> <p>Please tell us anything we should know about the picture you have uploaded.</p> <p>[open text field]</p> <p><i>If you don't have any comments, please type in 'NONE'.</i></p> |

- 2) Images were encrypted and uploaded to a secure server hosted at the University of Waterloo.
- 3) After fieldwork was closed, the research team downloaded the images and coded each image using a unique identifier that was linked via a master list to the 4CV5 record number.
- 4) Images were independently classified as NVP, HTP, snus, TF-ONP, or other by independent coders. The classifications were subsequently compared with 4CV5 user status, based on 4CV5 responses.

8.2 Experimental Tobacco Marketplace (ETM) Sub-study

At 4CV5, upon completion of the main survey, a subsample of respondents was invited to participate in an additional sub-study, the Experimental Tobacco Marketplace (ETM). This sub-study was led by researchers from Virginia Tech (VT) and Medical University of South Carolina (MUSC).

The ETM is an online store that displays photos, prices, and information for each of several available products. The ETM thus provides a method to estimate, prior to implementation, the effects of new products or policies on purchasing behaviors across various products in a complex tobacco marketplace. The ETM allows participants to make hypothetical purchases. A further methodological development of this approach, the Illegal Tobacco Marketplace (iETM) include marketplace choice or preference as a way to assess the potential of illicit trades under different policy restrictions.

The purpose of this sub-study was to examine the effects of implementing a vaping ban and a flavored vaping ban on the probability of purchasing vaping products in an illegal experimental tobacco marketplace as the price of conventional cigarettes increased in a legal experimental tobacco marketplace. The ETM sub-study was conducted using samples from CA, EN, and the US (countries with different policy environments) to ascertain whether the local regulatory conditions would modulate the observations. The target sample in each country was 150 overall, including 75 smokers only and 75 daily smoker/weekly vaper concurrent users.

8.2.1 ETM sample, eligibility criteria, and procedures

- Eligible panel-owned respondents for the ETM sub-study were recruited in CA, EN, and US from the following firms only: Leger (CA), Rakuten (EN), Ipsos PA (US). Due to resources, the ETM sub-study was offered in the English language only. For Canada, due to language rights this meant only linking English-speaking respondents to the ETM.
- Eligible panelists who agreed to participate in the ETM sub-study were redirected to the ETM Survey, which was programmed in Qualtrics and hosted on a VT server. The recruitment script included *“Please note: Although we will try to only invite 150 people, if the survey is very popular, it may fill up quickly and there is a small chance your user group may be filled.”*
- Upon completion of the ETM survey, participants were then redirected back to their respective home panel firm’s website via a URL so a records of their ETM survey completion could be enumerated, and the home panel firm would then process each participant’s remuneration.
- Once the sample target for the respective country and user type was achieved, no further sample was recruited to the ETM sub-study for that target. The VT team monitored targets and alerted the ITC/panel firm teams so that sample invitations would be slowed and/or closely monitored.

Respondents were identified from the main survey using the following ETM eligibility criteria:

- a) 4CV5 panel-owned respondents aged 18y or older who were **smokers only**, defined as:
 - daily cigarette smoker (FR309v=10) for at least 2 months
 - not NVP user (EC309v=40-70)
 - smoked factory-made cigarettes only, more than, or about the same amount as roll-your-own (FR330=1-3)
- b) 4CV5 panel-owned respondents aged 21y or older who were **dual daily users**, defined as:
 - daily cigarette smoker (FR309v=10) for at least two months
 - weekly e-cigarette user (EC309v=10 or 20) for at least two months
 - smoked factory-made cigarettes only, more than, or about the same amount as roll-your-own (FR330=1-3)

8.2.2 Completed Respondents by User Group and Country

The number of 4CV5 Survey participants who were invited to the ETM, the number who agreed to participate in the ETM, and the number that completed the ETM are shown below in [Table 14](#). The final analyzed sample included in the ETM data set is shown in [Table 15](#); cases were excluded if their self-reported data were inconsistent with 4CV5 Survey data.

Table 14. Obtained sample sizes of participants completing the survey for each of three user groups in three countries.

| Country | Shown ETM invitation | Agreed to participate | Completes | |
|---------|----------------------|-----------------------|--------------|-----------------------------|
| | | | Smokers Only | Daily smoker/ weekly vapers |
| CA | 316 | 202 | 95 | 78 |
| EN | 287 | 229 | 71 | 78 |
| US | 271 | 223 | 101 | 28 |

9 Quality Control and Uniformity

9.1 Incongruent cases and requests for withdrawal

- Any cases in which a respondent's identity was determined to be incorrect, or in which data were incongruent across waves (i.e., mismatched user status and/or duplicate cases), or in which a respondent requested their data be withdrawn, were subsequently removed from the full data set. Any ineligible cases (e.g., someone filled out survey in place of someone else) were also removed from the full data set.
- The number of incongruent cases removed from the dataset is provided in [Table 9](#).

9.2 Identification and removal of 'satisficers/speeders' from the dataset

- The number of 'speeders/satisficers' removed from the dataset is provided in [Table 9](#).
- Since Wave 1, two criteria were used to identify for poor data quality:
 - Seconds per question (secperQ), and
 - % of responses that were either Refused or Don't Know (%RDK).
 - Very extreme values occurred for both of these variables: times of less than 1.1 seconds per question, which by published estimates is not sufficient for even reading the question, and RDK responses for more than 93% of the questions completed.
- The respondents were split by country and user groups. Frequency distributions by country and user groups were used to create precise cut-off values.
- 'Suspiciousness points' were assigned, based on the cut-offs for the respondent's country and user group, and all respondents had points assigned. Respondents were removed from the dataset if they scored too many points.
- Points were assigned on these bases:
 - 1) SecperQ -- The calculated value was time taken to complete the survey divided by the number of questions answered by the respondent. Very short times suggest poor data quality.
 - 5 points were assigned if the respondent's value was lower than 0.5*10th percentile.
 - 3 points were assigned if the respondent's value fell between 0.5*10th percentile and 0.75*10th percentile.
 - 2 points were assigned if the respondent's value fell between 0.75*10th percentile and the 10th percentile.
 - 2) %RDK -- The calculated value was the number of questions answered with either Refused or Don't know, divided by the number of questions answered by the respondent. Large numbers represent poor data quality.
 - 3 points were assigned if the respondent's value was higher or equal to 2*90th percentile.
 - 2 points were assigned if the respondent's value fell between 2*90th percentile and 1.33*90th percentile.
 - 1 point was assigned if the respondent's value fell between 1.33*90th percentile and the 90th percentile.
- Points results: The range of possible points was 0-8. 81.55% of the respondents had 0 points.
- Cut-off for dropping respondents: Respondents who had more than 4 points were removed from the final data. In this setting, those who had extreme values in SecperQ (lower than 0.5*10th percentile) were out irrespective of their %RDK value. This resulted in dropping a total of 71 respondents from the final data: Canada had 27 dropped respondents, followed by 25 in US, 12 in England, and 7 in AU.
- Comparison between respondents who were dropped and those who were kept in the dataset indicated that dropped respondents were:
 - more likely to be in the 18-24 and 25-39 age groups, while 55+ group had the least dropped respondents;
 - more likely to be male than female.

Appendix A: Sample sizes, retention rates of 4CV1-5

Table A.1. Sample sizes and retention rates at 4CV1 to 4CV5*

| 4CV1 | | | | |
|---------------|------------------------------|------------------------------|--------------------|--------------------------|
| | ITC-owned | Panel-owned | | Total n (% retention) |
| | Recontact n (% retention) | Recontact n (% retention) | Replenishment n | |
| Australia | 276 (48.9) | 239 (38.2) | 989 | 1504 (43.1) |
| Canada | 524 (39.1) | 137 (54.2) | 3167 | 3828 (41.6) |
| England | 304 (28.4) | 0 | 4070 | 4374 (35.7) |
| United States | 296 (27.8) | 1161 (54.2) | 1355 | 2812 (44.2) |
| Total | 1400 (34.7) | 1537 (50.9) | 9581 | 12518 (41.6) |
| 4CV2 | | | | |
| | ITC-owned | Panel-owned | | Total n (% retention) |
| | Recontact n (% retention) | Recontact n (% retention) | Replenishment n | |
| Australia | 199 (72.1) | 654 (53.3) | 662 | 1515 (56.7) |
| Canada | 331 (63.2) | 1537 (46.5) | 1915 | 3783 (48.8) |
| England | 206 (67.8) | 1525 (37.5) | 3117 | 4848 (39.6) |
| United States | 236** (54.1***) | 969 (38.5) | 1643 | 2848 (42.9) |
| Total | 972 (69.4) | 4685 (42.1) | 7337 | 12994 (45.2) |
| 4CV3 | | | | |
| | ITC-owned | Panel-owned | | Total n (% retention) |
| | Recontact n (% retention) | Recontact n (% retention) | Replenishment n | |
| Australia | 137 (68.8) | 738 (56.1) | 616 | 1491 (57.8) |
| Canada | 224 (67.7) | 1437 (41.6) | 2027 | 3688 (43.9) |
| England | 135 (65.5) | 1451 (31.3) | 2314 | 3900 (32.7) |
| United States | 215** (91.5***) | 1149 (44.0) | 1164 | 2528 (47.9) |
| Total | 711 (73.1) | 4775 (39.7) | 6121 | 11607 (42.2) |
| 4CV4 | | | | |
| | ITC-owned | Panel-owned | | Total n (% retention) |
| | Recontact n (% retention) | Recontact n (% retention) | Replenishment n | |
| Australia | 82 (59.9) | 686 (50.7) | 753 | 1521 (51.5) |
| Canada | 159 (71.0) | 1298 (37.5) | 727 | 2184 (39.5) |
| England | 109 (80.7) | 946 (25.1) | 1257 | 2312 (27.1) |
| United States | 66 (30.7) | 1204 (52.1) | 914 | 2184 (50.2) |
| Total | 416 (58.5) | 4134 (37.9) | 3651 | 8201 (39.2) |
| 4CV5 | | | | |
| | ITC-owned | Panel-owned | | Total n (% retention) |
| | Recontact n (% retention) | Recontact n (% retention) | Replenishment n | |
| Australia | 45 (54.9%) | 667 (46.7%) | 783 | 1495 (46.8%) |

| | | | | |
|----------------------|-------------|--------------|------|--------------|
| Canada | 114 (71.7%) | 1129 (55.8%) | 1184 | 2427 (56.9%) |
| England | 88 (80.7%) | 354 (16.1%) | 1845 | 2287 (19.1%) |
| United States | 94 (72.9%) | 1463 (71.2%) | 654 | 2169 (69.4%) |
| Total | 341 (71.2%) | 3571 (46.1%) | 4466 | 8378 (47.7%) |

C= Recontact; P= Replenishment

* Using 4CV1 main sample; and full sample for 4CV2-5.

**Includes 121 new ITC-owned originally recruited as US opt-in at 4CV1 and 4CV2.

*** With new ITC-owned, retention rate = $(94+121)/(236) = 91.5\%$. For new ITC-owned only, retention rate = $(94/160) = 58.8\%$.

APPENDIX B: Replenishment sample targets, by country

In order to ensure the Replenishment Sample was representative, the research team determined approximate quota targets for Replenishment subsample groups as necessary, depending on the quality of the sample provided by panel firms. Quota targets were based on one or more of: user type, age, sex, and region. The quotas used in each country are described below.

Appendix B.1: Australia replenishment sample targets (Roy Morgan, RM)

- Replenishment sample were recruited by RM. RM subcontracted Dynata (previously named Survey Sampling International, SSI).
- The DMC established AU quota targets using **age** and **sex** criteria. Targets were proportional to stratum sizes based on AU census data ([Table B.1](#)).
- Within each quota target, the AU replenishment sample was recruited from a **probability-based panel** (RM Single Source) and a **non-probability-based panel** (via RM's panel partner, Dynata).
- UW monitored survey response in the cohort (recontact) sample (from ITC-owned, RM, and RM's panel partner) and adjusted the replenishment sample quotas (for RM and RM's panel partner) during fieldwork to achieve the final representative sample.

Table B.1. Summary of 4CV5 Australia replenishment sample user groups and quota criteria

| 4CV5 AU - Replenishment sample user groups | Quota target criteria | | | |
|--|-----------------------|-----|--------|--------------|
| | Age | Sex | Region | Language |
| Smokers, Recent Former Smokers, NVP Users | Yes | Yes | No | English only |

** In Australia only the target sample was for smokers/recent former smokers/NVP users as a group (i.e., there were no subtargets based on user type).*

Figure B.1. Initial Replenishment Sample quota targets for Australia.

Note: Targets were updated periodically during fieldwork as appropriate to reflect the actual Recontact/ Replenishment completes.

Quotas for Australia

ITC 4CV Survey Wave 5

Created by C. Boudreau on Mar 4, 2024

Last updated by C. Boudreau on Nov 27, 2024

Notes:

- 1) All quotas in this spreadsheet are for individuals that are to be recruited at wave 5; individuals recruited at prior waves that will be recontacted at wave 5 do not count towards the quotas in this spreadsheet
- 2) All quotas must be met or slightly exceeded by the end of fieldwork
- 3) The quotas to be programmed are in orange; the other numbers in the table are totals that do not need to be programmed
- 4) Cells in gray are meant to be easily modified (just type in a new number); all other cells/calculations are automated and thus those cells shouldn't be modified

Quotas for smokers/recent quitters ages 18 & older (regardless of e-cig/HTP/snus usage)

| | | Estimated # indivs ^{*1} | | Quotas | |
|--------|-------|----------------------------------|--------|----------|---------|
| | | N | % | Original | Revised |
| Male | 18-24 | 278,295 | 8.0% | 53 | 64 |
| | 25-39 | 683,180 | 19.6% | 131 | 158 |
| | 40-54 | 577,857 | 16.6% | 111 | 133 |
| | 55+ | 414,095 | 11.9% | 79 | 96 |
| | Total | 1,953,427 | 56.1% | 374 | 345 |
| Female | 18-24 | 167,313 | 4.8% | 32 | 39 |
| | 25-39 | 538,932 | 15.5% | 103 | 124 |
| | 40-54 | 457,943 | 13.2% | 88 | 106 |
| | 55+ | 362,290 | 10.4% | 69 | 84 |
| | Total | 1,526,478 | 43.9% | 292 | 353 |
| Total | | 3,479,905 | 100.0% | 666 | 803 |

*2

*3

Notes:

- *1 Estimated numbers of smokers, recent quitters, e-cigarettes, HTP and/or snus users age 18 & older
These estimates are from the 2019 National Drug Strategy Household Survey (NDHSH)
- *2 This (initial) estimate of 666 respondents to be recruited at wave 5 was computed by M. Thompson as part of the P01 grant application
- *3 This revised estimate of 803 respondents to be recruited at wave 5 is based on a 46.5% retention rate (as of Nov 27, 2024), and a desired overall sample of 1500 respondents to be interviewed at wave 5; $1500 - 1497 \times 0.465 = 803$

Appendix B.2: Canada replenishment sample targets (Leger)

- The DMC established CA smoker/recent former smoker and NVP/HTP/snus/TF-ONP user quota targets using **sex, age, region, and language** criteria. Targets were proportional to stratum sizes based on CA census data.
- *Important: Users who met criteria for both the smoker/recent former smoker and NVP/HTP/snus/TF-ONP user subsamples were first counted towards the appropriate NVP/HTP/snus/TF-ONP sample target. Once the NVP/HTP/snus/TF-ONP sample targets were met, subsequent concurrent users were counted towards the appropriate smoker targets.*
- The sampling **regions** were:
 - 1) Maritimes (incl. Newfoundland and Labrador, Prince Edward Island, Nova Scotia, and New Brunswick)
 - 2) Quebec
 - 3) Ontario
 - 4) Prairies (incl. Manitoba, Saskatchewan, Alberta)
 - 5) British Columbia
- If the quota value was very small (e.g., for NVP/HTP/snus/TF-ONP users in Maritimes provinces), they were presented as one value for the aggregated regions.
- Within each quota target, the CA replenishment sample was recruited from a **probability-based panel** (via Leger).
- The survey firm and UW monitored survey response in the cohort (recontact) sample (from ITC-owned and Leger) and adjusted the replenishment sample quota targets during fieldwork to achieve the final representative sample.

Table B.2. Summary of 4CV5 Canada replenishment sample user groups and quota criteria

| 4CV5 CA - Replenishment sample user groups | Quota criteria | | | |
|--|----------------|-----|--------|----------------------|
| | Age | Sex | Region | Language |
| Smokers, Recent Former Smokers | Yes | Yes | Yes | No specific targets. |
| NVP, HTP, snus, TF-ONP users | Yes | Yes | Yes | No specific targets. |

Note: Targets were updated periodically during fieldwork as appropriate to reflect the actual Recontact/ Replenishment completes.

ITC 4CV Survey Wave 5

Last updated by C. Boudreau on Mar 8, 2024

1) All quotas in this spreadsheet are for individuals that are to be recruited at wave 5; individuals recruited at prior waves that will be recontacted at wave 5 do not count towards the quotas in this spreadsheet
2) All quotas must be met or slightly exceeded by the end of fieldwork
3) The quotas to be programmed are in orange; the other numbers in the table are totals that do not need to be programmed
4) Cells in gray are meant to be easily modified (just type in a new number); all other cells/calculations are automated and thus those cells shouldn't be modified

| | | Population Estimates ^{*1} | | | | | Prevalence ^{*2} | | | | | Estimated # of users ^{*3} | | | | | Quotas | | | | | | |
|--------|----------------|------------------------------------|-----------|------------|-----------|-----------|--------------------------|--------|---------|----------|-------|------------------------------------|-----------|-----------|----------|---------|-----------|-------|-----------|--------|---------|----------|-----|
| | | Maritimes | Québec | Ontario | Prairies | BC | Maritimes | Québec | Ontario | Prairies | BC | Maritimes | Québec | Ontario | Prairies | BC | Total | Total | Maritimes | Québec | Ontario | Prairies | BC |
| Male | 18-24 | 96,175 | 321,640 | 631,520 | 291,670 | 204,280 | 34.12 | 23.73 | 26.78 | 25.94 | 23.10 | 32,818 | 76,321 | 169,123 | 75,666 | 47,179 | 401,107 | 79 | 6 | 15 | 33 | 15 | 10 |
| | 25-44 | 276,290 | 1,094,980 | 1,875,690 | 949,605 | 681,080 | 27.48 | 17.36 | 19.31 | 16.50 | 14.42 | 75,923 | 190,075 | 362,198 | 156,729 | 98,214 | 883,139 | 175 | 15 | 38 | 72 | 31 | 19 |
| | 45 & older | 594,410 | 1,939,035 | 3,060,540 | 1,330,205 | 1,124,435 | 19.05 | 13.99 | 14.93 | 13.45 | 13.72 | 113,227 | 271,298 | 456,926 | 178,846 | 154,256 | 1,174,553 | 231 | 22 | 53 | 90 | 35 | 31 |
| | Total (Male) | 966,875 | 3,355,655 | 5,567,750 | 2,571,480 | 2,009,795 | | | | | | 221,968 | 537,694 | 988,247 | 411,241 | 299,649 | 2,458,799 | | | | | | |
| Female | 18-24 | 89,385 | 308,605 | 586,290 | 270,745 | 192,400 | 15.79 | 14.71 | 15.67 | 14.80 | 22.80 | 14,115 | 45,393 | 91,875 | 40,064 | 43,875 | 235,322 | 47 | 13 | 9 | 18 | 8 | 9 |
| | 25-44 | 286,220 | 1,091,200 | 1,919,110 | 953,535 | 687,685 | 18.31 | 17.86 | 15.08 | 16.68 | 8.85 | 52,398 | 194,928 | 289,308 | 159,093 | 60,877 | 756,604 | 150 | | 39 | 57 | 32 | 12 |
| | 45 & older | 654,950 | 2,095,200 | 3,419,765 | 1,412,010 | 1,242,440 | 14.06 | 14.70 | 10.70 | 12.80 | 10.73 | 92,056 | 308,087 | 365,898 | 180,775 | 133,316 | 1,080,132 | 214 | 18 | 61 | 72 | 36 | 27 |
| | Total (Female) | 1,030,555 | 3,495,005 | 5,925,165 | 2,636,290 | 2,122,525 | | | | | | 158,569 | 548,408 | 747,081 | 379,932 | 238,068 | 2,072,058 | | | | | | |
| | Total | 1,997,430 | 6,850,660 | 11,492,915 | 5,207,770 | 4,132,320 | | | | | | 380,537 | 1,086,102 | 1,735,328 | 791,173 | 537,717 | 4,530,857 | 896 | 74 | 215 | 342 | 157 | 108 |

Quotas for e-cig/HTP/snus ages 18 & older

| | | Pop Estimates Canada | Prevalence ¹ | Estimated # of users ^{2,3} | Quotas |
|--------|----------------|-------------------------|-------------------------|-------------------------------------|--------|
| | | | | # | % |
| Male | 18-24 | 1,545,285 | 13.06 | 201,740 | 22.5% |
| | 25-44 | 4,877,645 | 4.88 | 237,849 | 26.6% |
| | 45 & older | 8,048,625 | 1.27 | 102,057 | 11.4% |
| | Total (Male) | 14,471,555 | | 541,646 | 60.5% |
| Female | 18-24 | 1,447,425 | 10.82 | 156,598 | 17.5% |
| | 25-44 | 4,937,750 | 2.13 | 105,258 | 11.8% |
| | 45 & older | 8,824,365 | 1.03 | 91,138 | 10.2% |
| | Total (Female) | 15,209,540 | | 352,994 | 39.5% |
| Total | | 29,681,095 | | 894,640 | 100.0% |

7

*1 Population estimates from the 2021 Census; see spreadsheet "9810002201-eng-2" in this Excel file

*2 Estimated prevalence of smoking and/or using e-cig and/or quit within last 2 years
These estimates are from the 2019 Canadian Tobacco and Nicotine Survey (CTNS)

*3 Population estimates x estimated prevalences

*4 This (initial) estimate of 896 respondents to be recruited at wave 5 is based on the table from Anne (see below)

*5 Estimated prevalence of using e-cig
These estimates are from the 2019 Canadian Tobacco and Nicotine Survey (CTNS)

*6 This (initial) estimate of 676 respondents to be recruited at wave 5 is based on the table from Anne (see below)

Appendix B.3: 4CV5 Replenishment sample targets for England (Rakuten Insight and panel partners)

- The DMC established EN smokers/recent former smoker and NVP/HTP/snus/TF-ONP user quota targets using **sex**, **age**, and **region** criteria. Targets were proportional to stratum sizes based on EN census data.
- *Important: Users who met criteria for both the smoker/recent former smoker and NVP/HTP/snus/TF-ONP user subsamples were first counted towards the appropriate NVP/HTP/snus/TF-ONP sample target. Once the NVP/HTP/snus/TF-ONP sample targets were met, subsequent concurrent users were counted towards the appropriate smoker targets.*
- The sampling **regions** were:
 - 1) North and Yorkshire & the Humber
 - 2) Midlands
 - 3) London and East of England
 - 4) South
- Within each quota target, the EN replenishment sample was recruited from a **non-probability-based panel** (via Rakuten's panel partners).
- UW monitored survey response in the cohort (recontact) sample (from ITC-owned and Ipsos UK) and adjusted the replenishment sample quotas (for Rakuten) during fieldwork to achieve the final representative sample.

Table B.3. Summary of 4CV5 England replenishment sample user groups and quota criteria

| 4CV5 EN - Replenishment sample user groups | Quota criteria | | | |
|--|----------------|-----|--------|--------------|
| | Age | Sex | Region | Language |
| Smokers, Recent Former Smokers | Yes | Yes | Yes | English only |
| NVP,HTP, snus, TF-ONP users | Yes | Yes | No | English only |

Figure B.3. Initial 4CV5 Replenishment sample targets for England

Note: Targets were updated periodically during fieldwork as appropriate to reflect the actual Recontact/ Replenishment completes).

Quotas for England (EN)

ITC 4CV Survey Wave 5

Created by C. Boudreau on Mar 4, 2024

Last updated by C. Boudreau on Sep 5, 2024

Notes:

- 1) All quotas in this spreadsheet are for individuals that are to be recruited at wave 5; individuals recruited at prior waves that will be recontacted at wave 5 do not count towards the quotas in this spreadsheet
- 2) All quotas must be met or slightly exceeded by the end of fieldwork
- 3) The quotas to be programmed are in orange; the other numbers in the table are totals that do not need to be programmed
- 4) Cells in gray are meant to be easily modified (just type in a new number); all other cells/calculations are automated and thus those cells shouldn't be modified

Quotas for smokers/recent quitters ages 18 & older (regardless of e-cig/HTP/snus usage)

| | | Estimated # smokers ^{*1} | % Pop ^{*2,3} | | | | Quotas (initial) | | | | | Quotas (updated) | | | | |
|--------|-----------------|-----------------------------------|-----------------------|----------|----------------------------|-------|------------------|--------------------|----------|----------------------------|-------|------------------|--------------------|----------|----------------------------|-------|
| | | | North, Yorkshire & | Midlands | London and East of England | South | Total | North, Yorkshire & | Midlands | London and East of England | South | Total | North, Yorkshire & | Midlands | London and East of England | South |
| Male | 18-24 | 326,595 | 28.1% | 19.6% | 26.8% | 25.6% | 60 | 17 | 12 | 16 | 15 | 81 | 23 | 16 | 22 | 21 |
| | 25-34 | 699,424 | 26.2% | 18.2% | 32.3% | 23.4% | 128 | 33 | 23 | 41 | 31 | 174 | 46 | 32 | 56 | 41 |
| | 35-49 | 875,196 | 25.3% | 17.7% | 32.1% | 25.0% | 161 | 41 | 28 | 52 | 40 | 217 | 55 | 38 | 70 | 54 |
| | 50 & older | 1,171,838 | 27.8% | 19.5% | 24.2% | 28.5% | 215 | 60 | 42 | 52 | 61 | 291 | 81 | 57 | 70 | 83 |
| | Total (Males) | 3,073,053 | | | | | 564 | | | | | 763 | | | | |
| Female | 18-24 | 286,185 | 28.4% | 19.5% | 27.2% | 24.9% | 53 | 15 | 10 | 14 | 14 | 71 | 20 | 14 | 19 | 18 |
| | 25-34 | 596,076 | 26.1% | 18.1% | 32.6% | 23.2% | 109 | 28 | 20 | 36 | 25 | 148 | 39 | 27 | 48 | 34 |
| | 35-49 | 720,854 | 25.6% | 17.9% | 30.9% | 25.7% | 132 | 34 | 24 | 41 | 33 | 179 | 46 | 32 | 55 | 46 |
| | 50 & older | 1,050,537 | 27.8% | 19.3% | 24.2% | 28.7% | 193 | 54 | 37 | 47 | 55 | 261 | 73 | 50 | 63 | 75 |
| | Total (Females) | 2,653,652 | | | | | 487 | | | | | 659 | | | | |
| Total | | 5,726,705 | | | | | 1052 | *4 | | | | 1422 | *10 | | | |

Quotas for e-cig/HTP/snus ages 18 & older

| | | N ^{*8} | Prevalence ^{*9} | E-cigarettes | | Quotas | |
|-----------------|------------|-----------------|--------------------------|---------------------------|--------|---------|---------|
| | | | | Estimated # ^{*7} | % | initial | updated |
| Male | 18-24 | 2,383,900 | 12.3 | 293,220 | 7.2% | 26 | 32 |
| | 25-34 | 3,974,000 | 11.1 | 441,114 | 10.8% | 39 | 49 |
| | 35-49 | 5,436,000 | 11.4 | 619,704 | 15.2% | 55 | 68 |
| | 50-59 | 3,686,100 | 9.3 | 342,807 | 8.4% | 30 | 38 |
| | 60 & older | 7,057,200 | 9.2 | 649,262 | 16.0% | 57 | 71 |
| Total (Males) | | 22,537,200 | | 2,346,107 | | 207 | 258 |
| Female | 18-24 | 2,253,420 | 18.6 | 419,136 | 10.3% | 37 | 46 |
| | 25-34 | 3,748,900 | 9.1 | 341,150 | 8.4% | 30 | 38 |
| | 35-49 | 5,502,700 | 7.5 | 412,703 | 10.1% | 37 | 45 |
| | 50-59 | 3,811,400 | 7.3 | 278,232 | 6.8% | 25 | 31 |
| | 60 & older | 7,994,400 | 3.4 | 271,810 | 6.7% | 24 | 30 |
| Total (Females) | | 23,310,820 | | 1,723,031 | | 153 | 190 |
| Total | | 45,848,020 | | 4,069,138 | 100.0% | 360 | 448 |

*8

*11

Notes:

- *1 Estimated number of smokers as of 2024; see spreadsheet "Nb smk" in this Excel file
- *2 Estimated percentage of population in each 4 geographic regions per gender/age group; see spreadsheet "Nb smk" in this Excel file
- *3 See other spreadsheets in this Excel file
- *4 North, Yorkshire & Humber = North East, North West and Yorkshire & the Humber
- *5 Midlands = East Midlands and West Midlands
- *6 London and East of England = East of England and London
- *7 South = South East and South West
- *8 This (initial) estimate of 1052 respondents to be recruited at wave 5 is based on the table from Anne (see below)
- *9 Population estimates/projections for 2024
- *10 Estimated prevalence of e-cigarettes use as of 2022; see spreadsheet "Table 1 - ecig" in this Excel file
- *11 Estimated number of e-cigarettes users as of 2024; column D x column E
- *12 This (initial) estimate of 360 respondents to be recruited at wave 5 is based on the table from Anne (see below)
- *13 As of Sep 5, 86 of the expected 88 ITC-owned cohort respondents had been successfully recontacted at wave 5, but only 292 of the expected 660 18+ smokers/recent quitters and only 52 of the expected 140 18+ EC/HTP/snus/ONP users had been successfully recontacted at wave 5
- *14 This (updated) estimate of 1422 respondents to be recruited at wave 5 is based on the achieved recontact figures above (see *9), and a desired overall sample of 1800 (88+660+1052=1800) 18+ smokers/recent quitters to be interviewed at wave 5; 1800
- *15 This (updated) estimate of 448 respondents to be recruited at wave 5 is based on the achieved recontact figures above (see *9), and a desired overall sample of 500 (140+360=500) 18+ EC/HTP/snus/ONP users to be interviewed at wave 5; 500 - 52 =

Appendix B.4: 4CV5 Replenishment sample targets for the United States (Ipsos Public Affairs)

- Ipsos PA determined representative sampling procedures for sampling drawn from their high-quality **probability-based KnowledgePanel sample**.
- UW monitored survey response in the cohort sample (from ITC-owned, Ipsos PA, and Ipsos UK) and adjusted the replenishment sample targets for Ipsos' KnowledgePanel during fieldwork.
- *Important: Users who met criteria for both the smoker and NVP/HTP/snus/TF-ONP user subsamples were first counted towards the appropriate NVP/HTP/snus/TF-ONP quota. Once the NVP/HTP/snus/TF-ONP sample targets were met, subsequent users who met both criteria were counted towards the appropriate smoker targets.*

Table B.4. Summary of 4CV5 United States replenishment sample user groups and quota criteria

| 4CV5 US - Replenishment sample user groups | Quota criteria | | | |
|--|----------------|-----|--------|--------------|
| | Age | Sex | Region | Language |
| Smokers, Recent Former Smokers | Yes | Yes | No | English only |
| NVP/HTP/snus/TF-ONP Users | Yes | Yes | No | English only |

Figure B.4. Initial 4CV5 Replenishment sample targets for the United States

Note: Targets were updated periodically during fieldwork as appropriate to reflect the actual Recontact/ Replenishment completes.

Quotas for US

ITC 4CV Survey Wave 5

Created by C. Boudreau on Mar 4, 2024

Last updated by C. Boudreau on Mar 8, 2024

Notes:

- 1) All quotas in this spreadsheet are for individuals that are to be recruited at wave 5; individuals recruited at prior waves that will be recontacted at wave 5 do not count towards the quotas in this spreadsheet
- 2) All quotas must be met or slightly exceeded by the end of fieldwork
- 3) The quotas to be programmed are in **orange**; the other numbers in the table are totals that do not need to be programmed
- 4) Cells in **gray** are meant to be easily modified (just type in a new number); all other cells/calculations are automated and thus those cells shouldn't be modified

Quotas for smokers/recent quitters ages 18 & older (regardless of e-cig/HTP/snus usage)

| | | Estimated # indivs ^{*1} | | Quotas | | | | |
|--------|-------|----------------------------------|--------|---------|---------------|---------------|---------------|---------------|
| | | N | % | Initial | Revised (???) | Revised (???) | Revised (???) | Revised (???) |
| Male | 18-24 | 3,068,234 | 6.8% | 42 | | | | |
| | 25-39 | 8,452,313 | 18.8% | 115 | | | | |
| | 40-54 | 7,098,710 | 15.8% | 97 | | | | |
| | 55+ | 7,222,989 | 16.1% | 98 | | | | |
| | Total | 25,842,246 | 57.6% | 352 | | | | |
| Female | 18-24 | 2,324,984 | 5.2% | 32 | | | | |
| | 25-39 | 5,152,982 | 11.5% | 70 | | | | |
| | 40-54 | 5,242,152 | 11.7% | 71 | | | | |
| | 55+ | 6,306,043 | 14.1% | 86 | | | | |
| | Total | 19,026,161 | 42.4% | 259 | | | | |
| Total | | 44,868,407 | 100.0% | 611 | | | | |

*2

| | | Estimated # indivs ^{*1} | | Quotas | | | | |
|-----------|--|----------------------------------|--------|---------|---------------|---------------|---------------|---------------|
| | | N | % | Initial | Revised (???) | Revised (???) | Revised (???) | Revised (???) |
| Northeast | | 6,449,787 | 14.4% | 88 | | | | |
| Midwest | | 10,492,213 | 23.4% | 143 | | | | |
| South | | 19,436,469 | 43.3% | 264 | | | | |
| West | | 8,489,939 | 18.9% | 116 | | | | |
| Total | | 44,868,407 | 100.0% | 611 | | | | |

Quotas for e-cig/HTP/snus ages 18 & older

| | | Estimated # indivs ^{*1} | | Quotas | | | | |
|--------|-------|----------------------------------|--------|---------|---------------|---------------|---------------|---------------|
| | | N | % | Initial | Revised (???) | Revised (???) | Revised (???) | Revised (???) |
| Male | 18-24 | 2,321,340 | 14.3% | 28 | | | | |
| | 25-39 | 4,290,859 | 26.4% | 53 | | | | |
| | 40-54 | 2,294,575 | 14.1% | 28 | | | | |
| | 55+ | 1,390,951 | 8.6% | 17 | | | | |
| | Total | 10,297,726 | 63.5% | 126 | | | | |
| Female | 18-24 | 1,760,524 | 10.8% | 21 | | | | |
| | 25-39 | 2,144,478 | 13.2% | 26 | | | | |
| | 40-54 | 1,237,066 | 7.6% | 15 | | | | |
| | 55+ | 788,054 | 4.9% | 10 | | | | |
| | Total | 5,930,121 | 36.5% | 72 | | | | |
| Total | | 16,227,847 | 100.0% | 198 | | | | |

*4

Notes:

- *1 Estimated numbers of smokers, recent quitters, e-cigarettes, HTP and/or snus users age 18 & older
These estimates are from the 2018 National Health Interview Survey (NHIS)
- *2 This (initial) estimate of 611 respondents to be recruited at wave 5 is based on the table from Anne (see below)
- *3 Estimated numbers of e-cigarettes, HTP and/or snus users age 18 & older
These estimates are from the 2018 National Health Interview Survey (NHIS)
- *4 This (initial) estimate of 198 respondents to be recruited at wave 5 is based on the table from Anne (see below)

APPENDIX C: 4CV5 Fieldwork challenges

4CV5 Fieldwork challenges

- 1) Retention in England
 - We experience a much lower retention rate in England than in other countries, meaning a much higher reliance on fresh sample.
 - Rakuten has changed partner firms going forward and hope for much higher recontact rates in future waves.
- 2) ETM US Dual User targets
 - Ipsos PA was unable to provide the targeted 75 dual user respondents for the US version of the ETM.
 - Virginia Tech altered the targets to allow for a greater number of cigarette only respondents.
 - Virginia Tech reduced the screening of dual user targets from daily users of both cigarettes and vapes to weekly user of vapes who smokes at least daily.
 - Canadian targets for dual users were increased in the hope that it could make up for some of the US shortfall.
- 3) Age 18-24 Recruitment in Australia
 - RM was unable to provide the targeted number of 18-24 year-old respondents.
 - Snowball methodology was utilized to allow for an increased number of 18-24-year-olds.

Issues resolved from the previous wave(s)

- 1) Harder-to-recruit younger adults aged 18-24 were no longer oversampled as of Wave 4 (this was done in Waves 1-3).
- 2) The project management team successfully coordinated Replenishment sample target updates (across panel firm, and accounting for dynamic Recontact completes) at this wave. There was a slight overshoot, but budget savings offset this, and the benefit of a slightly more robust sample was deemed appropriate by the leadership team.

APPENDIX D: Terminology guidelines for publications

The standard terminology presented below was determined in consensus by the 4CV investigator team and finalized on October 12, 2018. It provides standard terms for use in the P01 Supplement and other manuscripts using 4CV data. Recommended main terms are in **bold**; optional qualifiers are in **square brackets**. Qualifiers may be omitted after first use if this intention is stated. For complete clarity, all terms for products, product classes, and user groups should be defined in a paper when first used. Where an intended classification does not match the definition for one of the recommended main terms, another explicit term should be used and carefully defined.

*Suggested people-first language is provided where relevant in the table below. Other suggested terms can be found at <https://tobaccocontrol.bmj.com/pages/people-first-language-policy>.

Table D.1: Terminology guidelines for publications

| Concept (products) | Main term | Definitions | Comments |
|---|---|---|--|
| Cigarette | Cigarette [roll-your-own or RYO, factory made or FM] | Traditional cigarette made with tobacco, roll-your-own or factory made. | The term is unlikely to require the use of the “conventional” or “traditional” qualifier as the term “e-cigarette” will no longer be used routinely in papers (except where explicitly describing questions which include it, or in defining a NVP). |
| Device to deliver substance in vapour or aerosol form for inhaling. | Vaping device | A device, sometimes called a vaporizer or personal vaporizer, designed to produce from a liquid (called a vaping liquid) a vapour or aerosol for inhaling. This definition includes disposable e-cigarettes, rechargeable cartridges or pods which liquids, tank devices; they can be open or closed systems; the liquid may or may not contain nicotine. | Preferred term for the devices. Please do not use if you intend to include heated tobacco products. Alternative not preferred is “vaporizer”. Do not use the term “e-cigarette” or the like except in the context of defining vaping device or NVPs. |
| | Nicotine vaping product (NVP) | A vaping device or vaporizer delivering nicotine in the vapour or aerosol. | The word “product” here and later is being used to refer to the combination of the device and the substance(s) it contains; i.e. where the focus is on the functional use, rather than on the physical device. Only use where the products are known to contain nicotine. |
| | Cigalike | A vaping device designed to resemble a cigarette. | Use only if necessary. Use another term such as “tobacco stick” or “heated cigarette” for something like a Heets stick. |

| Concept (products) | Main term | Definitions | Comments |
|-----------------------------------|---|--|--|
| | Electronic nicotine delivery system (ENDS) | An electronic or battery operated device designed to deliver an inhaled dose of nicotine or other substances; not for Nicotine Replacement Therapy. | ENDS could refer to NVPs or HTPs – but FCA says not. (See second Appendix.) Avoid using this term if possible. |
| | Heated tobacco product (HTP) | Products that heats tobacco but to a lower temperature than needed for combustion, to deliver an aerosol for inhaling; used in combination with a quantity of solid tobacco, either in a cigarette-like form or in some kind of pod. | Term “heat-not-burn” is not advised for use. If using the term HTP, you may want to give at least one example product. |
| Practice of using a vaping device | Vaping Nicotine vaping | Use of a [personal] vaporizer or vaping device. Use of a vaping device containing nicotine. | Does not apply to use of HTPs. “Vaping” can be used for nicotine vaping if it is previously clear that only nicotine vaping is being considered. For non-nicotine vaping, the qualifier “non-nicotine” should always be used. “Vaping” alone can also be used when it is made clear the reference is to either vaping with nicotine or more generally vaping irrespective of specific content. |
| User of a vaping device | Vaper, Nicotine vaper *People who vape/People who use e-cigarettes | Someone who uses a vaping device, with or without nicotine. Someone who uses a vaping device with nicotine. | “Vaper” can be used for nicotine vaper if it is previously clear that only nicotine vaping is being considered. “Vaper” alone can also be used when it is made clear the reference is to vaping with or without nicotine or the context clearly implies it is with nicotine. |
| The substance produced by vaping | Vapour | The substance produced by vaping. | On first introduction of the term it may be better to say “aerosol, commonly referred to as vapour”. Use only when referring to NVPs, not when referring to HTPs. We don’t yet have consensus on a term for the emissions of HTPs, but would like to avoid “vapour” if possible. |
| The liquid used in vaping | [Nicotine] vaping liquid | The liquid used for vaping. | Commonly called e-liquid, but not a particularly useful term. Recommend we avoid the term “e-liquid”. Can be qualified by core constituent; e.g. “nicotine vaping liquid” or “nicotine liquid” where it can be inferred readily that the liquid is for vaping. |
| Therapeutic nicotine | Nicotine replacement therapy (NRT) | An approved nicotine therapy. | Do not describe vaping as NRT unless it becomes an approved medicine (and only for the forms that are approved medicines). |

| Concept (products) | Main term | Definitions | Comments |
|--|---|---|--|
| All potentially harm reduced products | Alternative nicotine product (ANP) | All potentially harm reduced nicotine products when in a context of possible use outside approved therapeutic use; includes all vaping and any recreational or long-term non-therapeutic use for NRT; includes recreational oral nicotine products like Zyn; may include clean smokeless tobacco. | Where important, make it clear if recreational use of NRT is included. Or specifically excluded. “Clean smokeless tobacco” if included should be defined through examples. |
| All combusted tobacco products | Smoked tobacco | Products in which tobacco is burned to produce smoke for inhaling; includes cigarettes, cigars, bidi, pipes, and some shisha devices. | Some shisha devices do not burn the tobacco (also ANPs like Eclipse), but use a carbon coal to heat it to release the desired nicotine and flavours. If the intention in using the term “smoked tobacco” is to include all shisha, this should be stated. For now, do not take this term to include HTPs. There is a discussion starting on whether certain products such as some HTPs should be included as combusted (as there is some combustion), or heated (as the intent is not to combust the tobacco). |
| Smokeless tobacco used orally | Oral tobacco | Tobacco products in which tobacco leaf or powder is put into the mouth; includes snus, oral snuff, chewing tobacco. | Recommend use “oral” instead of “smokeless” to avoid confusing chew and oral snuff with HTPs. Any use to include nasal snuff should mention nasal snuff explicitly. |
| Product placed between the upper lip and gum for sub-labial administration | Tobacco-Free Oral Nicotine Pouches | Tobacco-free nicotine product in which the pouch containing nicotine is put between the upper lip and gum where nicotine is released. | |
| | Snus | Powdered tobacco product placed between the lips and gums. | |
| Combined market for combusted tobacco and other nicotine delivery products | Nicotine market | The consumer market for all nicotine delivery products, including cigarettes, other combusted tobacco products, smokeless tobacco, NVPs, HTPs and NRT. | Could be qualified with “recreational” or “therapeutic” where a distinction is important. |
| Exposure of others | Second-hand vapour | Effluent exhaled or emitted during vaping. | “Second-hand aerosol” would seem more correct than “second-hand vapour” because generally particles are present as well as the gaseous component. However, it |

| Concept (products) | Main term | Definitions | Comments |
|---|---|---|--|
| | | | may be reasonable to use “second-hand vapour” with suitable qualification. |
| | Passive vaping | Inhaling second-hand vapour. | Either term “second-hand vapour” or “passive vaping” can be used depending on whether focus is on the effluent or on its inhalation. |
| Cigarette smoker (definitions consistent with terminology in 4CV1/2 questionnaires) | Current smoker *People who currently smoke | Someone who has smoked at least 100 cigarettes in lifetime, and currently smokes at least monthly. Corresponds to FR225 = 1-2 or FR225 = 3 and BI345 = 1. (Table D.2) | This definition of current smoker is in line with the eligibility criterion for being recruited as a smoker in the ITC 4C surveys, and seems to be preferred as the meaning of “current smoker” by several of the commenters. In 4CV1, corresponds to FR225 = 1-2 or FR225 = 3 and BI345 = 1. (100 cigarettes was confirmed only if the respondent smoked monthly or less frequently.) The eligibility criterion for 4CV1 was to be smoking daily, weekly, monthly or “at least occasionally”, corresponding to FR309v = 1-3. The word “occasional” need only be used when describing the eligibility criteria. The terms “occasional use” or “occasional user” are not advised for use. |
| | Daily smoker *People who smoke daily | A current smoker who currently smokes daily. Corresponds to FR309v = 1 (Table D.2) | |
| | Non-daily smoker *People who smoke less than daily | A current smoker who does not smoke daily. | |
| | Weekly smoker *People who smoke weekly | A current smoker who smokes at least weekly but not daily. Corresponds to FR309v = 2 (Table D.2) | |
| | Monthly smoker *People who smoke monthly | A current smoker who smokes at least monthly but not weekly. Corresponds to FR225 = 3 and BI345 = 1 (Table D.2) | |
| | | | |
| | | | |
| Users of both cigarettes and NVPs | Dual user *People who vape and smoke | Someone who both vapes nicotine and smokes cigarettes at least monthly | This term is introduced to remove confusion created by reserving “dual user” to describe someone with daily use of both NVPs and cigarettes. See Borland dual use paper for explanation. You will need to define it when first used as it is not currently understood. Dual use also only refers to using two sources of nicotine. |
| | Dual daily user | Someone who smokes daily AND uses NVPs daily. | |
| | | | |

| Concept (products) | Main term | Definitions | Comments |
|-------------------------|---|---|---|
| | *People who vape and smoke daily | | <p>Not included in these definitions are respondents who reported using either product less than monthly. They are not treated as current users</p> <p>Also not included are respondents who use vaping devices without nicotine. Groups like these may be given names (which should be defined carefully) specific to their contexts.</p> <p>“Predominant use” will need to be defined before using it.</p> <p>NB: Dual use of smoking and HTP and HTP and VPs will need to be dealt with at some point.</p> |
| | Dual non-daily user | Someone who smokes weekly or monthly AND uses NVPs weekly or monthly but not daily. | |
| | *People who vape and smoke less than daily | | |
| | Predominant smoker | Someone who smokes daily but uses NVPs weekly or monthly but not daily. | |
| | *People who predominantly smoke | | |
| | Predominant vaper | Someone who vapes nicotine daily but smokes weekly or monthly but not daily. | |
| User of a vaping device | *People who predominantly vape | | <p>Vaping at least weekly was the eligibility criterion to be recruited in 4CV1-4 as a vaper.</p> <p>Qualify by preceding “vaper” with “nicotine” if referring to vaping nicotine and this is not clear.</p> <p>If using the term “current vaper” please use it for someone who vapes nicotine at least monthly and define it as such. At some point we might like to redefine “experimental” to also include past users who are open to trying again.</p> <p>“Ever vaper” will generally be used as an inclusion criteria, or as “only ever tried” to distinguish those who have only ever tried “once or twice” from experimental vapers.</p> |
| | Vaper | Someone who uses a vaping device, with or without nicotine. | |
| | *People who vape | | |
| | Daily [nicotine] vaper | A vaper who uses an NVP daily. | |
| | *People who vape daily | | |
| | Weekly [nicotine] vaper | A vaper who uses an NVP at least weekly, but not daily. | |
| | *People who vape weekly | | |
| | Non-daily [nicotine] vaper | A vaper who uses an NVP less often than daily, but at least monthly. | |

| Concept (products) | Main term | Definitions | Comments |
|--------------------|---|---|--|
| | *People who vape less than weekly | | |
| | Experimental vaper | Someone who uses an NVP less often than monthly. | |
| | *People who vape experimentally | | |
| | Ever vaper | Someone who has tried vaping at least once. | |
| | *People who ever vaped | | |
| User of a HTP | HTP user | Someone who uses a HTP or HTPs. | Do not use “vaper” for user of HTP. Please only use “user of HTP” or in full without abbreviation if you need to mention users of HTPs. Or “HTP user”. |
| | *People who use HTPs | | |
| Former smoker | Recent former smoker | Someone who has smoked at least 100 cigarettes in lifetime, and is no longer smoking cigarettes. | Qualification with recent and long-term as yet unquantified, but the advice is not to use “recent” for anything more than 6 months or “long term” for anything less than 1 year if possible. Having quit within the previous two years is an eligibility criterion for our study, so we will often be dividing smokers as quit for > or < 2 years. |
| | *People who recently quit | The state of being a former smoker who at the time of the interview had quit within the previous two years. | |
| | Quit within the previous two years | | |
| | *People who quit within the previous two years | | |
| Former vaper | Former [nicotine] vaper | Someone who vaped at least weekly in the past but currently does not vape. | Deliberate use of different term than for smoking, as all past use is much shorter than for smoking and few have quit vaping after developing a vaper lifestyle. We may eventually want to differentiate former daily from former non-daily vapers. Try not to use “former NVP user”. Should be restricted to nicotine vaping, unless it is made clear it is either or non-nicotine. |
| | *People who used to vaped | | |
| | Recent former [nicotine] vaper | Someone who used NVPs in the past but has stopped doing so within the previous 2 years (or 24 months). | |

| Concept (products) | Main term | Definitions | Comments |
|---------------------|---|---|---|
| | *People who used to vape | | |
| Daily nicotine user | Daily nicotine user *People who use nicotine daily | Someone who uses a nicotine-containing product daily. | Whether or not to include NRT as a nicotine-containing product could depend on the context. |

Table D.2: Cigarette screening variables* FR225, BI345, QA439, and FR309v from the ITC 4CV5 Survey.

*As referred to in [Table D.1](#) to define various types of “cigarette smokers”.

| Varname | 4CV5 Survey Questions |
|--------------|--|
| FR225 | <p>Ask all.</p> <p>How often, if at all, do you CURRENTLY smoke ordinary cigarettes (either factory-made/packet or roll-your-own)?</p> <ol style="list-style-type: none"> 1 Daily 2 Less than daily, but at least once a week 3 Less than weekly, but at least once a month 4 Less than monthly, but occasionally 5 I have quit smoking 6 I have never been a smoker 8 Refused 9 Don't know <p><i>This is an essential question that will help to determine your eligibility. Please do your best to answer. If you can't or don't wish to answer this question, you will not be able to continue.</i></p> <p>If response=4, go to FR142.</p> <p>If response=1, 2, 3, 5 or 6, go to FR142v.</p> <p>If response=8 or 9, go to BI473, then BI904. (DC: if C, then C-B11.5; if P, then P-C11.5)</p> |
| BI345 [A] | <p>Ask if [P and (FR225v=3, 4 or 5)] OR [C and (FR225v=3, 4 or 5) and (BI345v@LSD=2)].</p> <p>Have you smoked 100 or more cigarettes over your lifetime?</p> <ol style="list-style-type: none"> 1 Yes 2 No 8 Refused 9 Don't know <p><i>100 cigarettes= 5 packs of 20 cigarettes OR 4 packs of 25 cigarettes.</i></p> <p><i>This is an essential question that will help to determine your eligibility. Please do your best to answer. If you can't or don't wish to answer this question, you will not be able to continue.</i></p> <p>If response=8 or 9, go to BI473, then BI904. (DC: if C, then C-B11.5; if P, then P-C11.5)</p> |
| BI345v | <p>(Derived value – smoked 100 or more cigarettes in lifetime.)</p> <p>If BI345=1, then BI345v=1. If BI345=2, then BI345v=2. If FR225v=1-2, then BI345v=1. If BI345v@LSD=1, then BI345v=1. If FR225v=6, then BI345v=2.</p> <ol style="list-style-type: none"> 1 Yes 2 No |
| QA439 | <p>Ask if [(P and (FR304=1 or FR225v=5)) OR (C and (FR304=1 or FR225v=5 or QA342=1-2))] and BI345v=1.</p> <p>QA342=2: How long ago did your CURRENT quit attempt start?</p> <p>FR304=1 or 2: How long ago did you reduce your smoking to less than monthly? If you don't know exactly when this happened, give us your best estimate.</p> <p>Otherwise: How long ago did you quit smoking?</p> |

| | |
|--------|---|
| | <p>01 Less than 1 week ago</p> <p>02 1-2 weeks ago</p> <p>03 3-4 weeks ago</p> <p>04 1-3 months ago</p> <p>05 4-6 months ago</p> <p>06 7-12 months ago</p> <p>07 13-18 months ago</p> <p>08 19-24 months ago</p> <p>09 2-3 years ago</p> <p>10 3-5 years ago</p> <p>11 More than 5 years ago</p> <p>88 Refused</p> <p>99 Don't know</p> <p><i>This is an essential question that will help to determine your eligibility. Please do your best to answer. If you can't or don't wish to answer this question, you will not be able to continue.</i></p> <p>If response=88 or 99, go to BI473, then BI904. (DC: if C, then C-B11.7; if P, then P-C11.7)</p> |
| FR309v | <p>Two-digit codes for FR309v were adopted after W2 fieldwork and retroactively implemented for W1 and W2. These allow splitting of the previous category 'Current Occasional/< Weekly Smoker', coded 3, into new categories 'Monthly' and 'Less-than-monthly' smokers, now coded 31 and 32 respectively. Other codes simply have a zero added to the single digit:</p> <p><u>Old -> New</u></p> <p>1 -> 10</p> <p>2 -> 20</p> <p>3 -> 31 + 32</p> <p>4 -> 40</p> <p>8 -> 80</p> <p>9 -> 90</p> <p>(Derived variable for all respondents -- cigarette smoking status at current wave, to be used in question filters throughout survey.)</p> <p>10 Current Daily Smoker (FR225v=1)</p> <p>20 Current Weekly Smoker (FR225v=2)</p> <p>31 Current Monthly Smoker (FR225v=3 AND BI345v=1)</p> <p>32 Current Less-than-monthly Smoker (FR225v=4 AND BI345v=1)</p> <p>40 Recent Quitter: Identifies as quit in last 24M AND has smoked 100+ lifetime cigs [(FR225v=5 AND BI345v=1 AND QA439=1-8) or (QA342=1-2 and QA439=1-8)]</p> <p>80 Long-term Quitter: Identifies as quit more than 24M ago AND has smoked 100+ lifetime cigs [(FR225v=5 AND BI345v=1 AND QA439=9-11) or (QA342=1-2 and QA439=9-11)]</p> <p>90 Non-Smoker: Identifies, or is derived as, never having been a smoker OR has not smoked 100+ lifetime cigs. (FR225v=6 or BI345v=2)</p> |

APPENDIX E: Summary of recruitment materials using ITC phrasing vs. standard panel templates

| Country | Firm and sample type | Used ITC phrasing, image, logo | Used standard panel template | Notes |
|--|---|--------------------------------|------------------------------|---|
| Pre-Field Interwave Reminder (Recontact only) | | | | |
| AU | RM (ITC-owned, panel-owned) | ✓ | | |
| | UQ Dedicated Vapers (ITC-owned) | ✓ | | |
| CA | SCSRU (ITC-owned) | ✓ | | |
| | Leger (panel-owned) | n/a | | Not sent |
| EN | SCSRU (ITC-owned) | ✓ | | |
| | Ipsos UK (panel-owned) | Partial | | Partial = Some ITC phrasing, but no pictures. |
| | Rakuten (panel-owned) | Partial | | |
| | Rakuten Partners (panel-owned) | Partial | | |
| US | SCSRU (ITC-owned) | ✓ | | |
| | Ipsos UK, Partner(s) (panel-owned) | Partial | | |
| | Ipsos PA (panel-owned) | N/A | | |
| Invitation Email | | | | |
| AU | RM (ITC-owned, panel-owned) – Recontact, Replenishment | ✓ | | |
| | UQ Dedicated Vapers (ITC-owned) - Recontact only | ✓ | | |
| CA | SCSRU (ITC-owned) – Recontact only | ✓ | | |
| | Leger (panel-owned) – Recontact, Replenishment | | ✓ | |
| EN | SCSRU (ITC-owned) – Recontact only | ✓ | | |
| | Ipsos UK (panel-owned) – Recontact only | | ✓ | |
| | Rakuten (panel-owned) – Recontact, Replenishment | ✓ | | |
| | Rakuten Partners (panel-owned) – Recontact, Replenishment | Partial | | |
| US | SCSRU (ITC-owned) - Recontact only | ✓ | | |
| | Ipsos UK, Partner(s) (panel-owned) – Recontact only | | ✓ | |
| | Ipsos PA (panel-owned) – Recontact and Replenishment | Partial | | |
| | Ipsos PA Partners (panel-owned) – Replenishment only | Partial | | |
| Email Reminder | | | | |
| AU | RM (ITC-owned, panel-owned) – Recontact, Replenishment | ✓ | | |
| | UQ Dedicated Vapers (ITC-owned) - Recontact only | ✓ | | |
| CA | SCSRU (ITC-owned) – Recontact only | ✓ | | |
| | Leger (panel-owned) – Recontact, Replenishment | | ✓ | |
| EN | SCSRU (ITC-owned) – Recontact only | ✓ | | |
| | Ipsos UK (panel-owned) – Recontact only | | ✓ | |
| | Rakuten (panel-owned) – Recontact, Replenishment | ✓ | | |
| | Rakuten Partners (panel-owned) – Recontact, Replenishment | Partial | ✓ | |
| US | SCSRU (ITC-owned) - Recontact only | ✓ | | |
| | Ipsos UK, Partner(s) (panel-owned) – Recontact only | | ✓ | |
| | Ipsos PA (panel-owned) – Recontact , Replenishment | ✓ | ✓ | |
| | Ipsos PA Partners (panel-owned) – Replenishment only | | ✓ | |

APPENDIX F: Sampling weights, design, and benchmarks

To be updated upon receipt from the ITC Data Management Team.