Attachment 2

Summary of Field Test Findings and Field Test Report

June 18, 2013

PATH Study Summary of Field Test Findings
and
PATH Study Field Test Report

PATH Study Summary of Field Test Findings

Study Component	Measure	Performance Standard	Field Test Result(s)	Comments
Methods, Procedures, and Systems				
Field Operations	Interview length—Household screener (adults)	Projected time: 17 minutes	12.7 minutes for short version, 14.0 minutes for long version	Length is acceptable, use strongest items from each version.
	Interview length—Individual screener (adults)	Projected time: 6 minutes	6.4 minutes	Length is acceptable, no changes needed.
	Interview length—Extended interview (adults)	Projected time: 69 minutes	42.0 minutes	Length is acceptable, no changes needed.
	Interview length—Extended interview (youth)	Projected time: 35 minutes	32.2 minutes	Length is acceptable, no changes needed.
	Interview length—Parent interview (adults)	Projected time: 19 minutes	7.8 minutes	Length is acceptable, no changes needed.
Field Operations	Staff time needed to finalize activities at a dwelling unit	Projected time: 1 hour	1.1 hours	Length is acceptable, no changes needed.
Biospecimen Collection	Consent rate for blood, urine, and buccal cell samples	Experience from other studies varies, depending on factors such as incentives and number of visits. Range observed: Urine – 60-95% Blood – 55-83%	Consent rates: Buccal cell – 74.0% Urine – 59.6% Blood – 46.9%	Modifications have been implemented to improve consent rates, including: modifying the structure of incentives, providing additional information in consent materials on the importance of biological specimens to the study, providing interviewers with specific information to address common respondent concerns, and enhancing interviewer recruitment and training.

Study Component	Measure	Performance Standard	Field Test Result(s)	Comments
Biospecimen Collection	Rate of successful collection of samples among those who consent	The goal was 100% among those who consented.	Rate of collection among those who consent: Buccal cell – 98.3% Urine – 81.8% Blood – 83.1% The decrease in rate of urine and blood collection is due mainly to the inability to complete the second visit.	The rate of urine collection is expected to increase for baseline, because collections will be done during the first home visit.
Biospecimen Collection	Average time between interview and blood collection visit	The goal was to collect blood between 3 and 14 days after the interview.	The average time between the interview and blood collection visit was 8.3 days.	Range was expected, not unusual.
Biospecimen Collection	Distribution of times from collection to processing	Biological specimens were to be processed within 72 hours of collection.	The time from collection to processing ranged from 22 to 65 hours for specimens collected by interviewers and from 24 to 74 hours for specimens collected by phlebotomists, depending on the day of the week specimens were collected.	Times from collection to processing greater than 72 hours were due to FedEx and repository availability schedules during the Christmas and New Year's holidays. This will be avoided for baseline collections by imposing "blackout" dates for specimen collection on days that will result in delays to process.
Processing at the Repository	Success in obtaining the expected number of aliquots from each collected biospecimen	Number of aliquots specified by the processing protocol	All urine aliquots were obtained when an adequate volume of urine was collected. Fewer than expected small volume plasma and serum aliquots were obtained.	The processing protocols for plasma and serum have been modified for baseline to ensure an adequate number of small volume aliquots will be obtained.
Sampling	Unweighted housing unit eligibility rate	Design assumption: 88.6%	89.8%	Assumption is reasonable. No change needed.

Study Component	Measure	Performance Standard	Field Test Result(s)	Comments
Sampling	Unweighted distribution of enumerated adults	Design assumptions: Black, 18-24 years old, tobacco user: 0.3% Black, 18-24 years old, tobacco nonuser: 1.7% Black, 25+ years old, tobacco user: 2.1% Black, 25+ years old, tobacco nonuser: 8.4% Non-Black, 18-24 years old, tobacco user: 2.2% Non-Black, 18-24 years old, tobacco nonuser: 7.9% Non-Black, 25+ years old, tobacco user: 16.3% Non-Black, 25+ years old, tobacco nonuser: 61.0%	Black, 18-24 years old, tobacco user: 1.7% Black, 18-24 years old, tobacco nonuser: 3.3% Black, 25+ years old, tobacco user: 5.1% Black, 25+ years old, tobacco nonuser: 6.0% Non-Black, 18-24 years old, tobacco user: 7.2% Non-Black, 18-24 years old, tobacco nonuser: 11.4% Non-Black, 25+ years old, tobacco user: 22.8% Non-Black, 25+ years old, tobacco nonuser: 42.5%	For the baseline wave, increase the assumed tobacco use rates among the enumerated adults during household screener. The extent of increase will vary by age and race group.
Sampling	Unweighted tobacco use misclassification rates	Design assumptions: False positive rate: 18-24 years old: 5% 25+ years old: 5% False negative rate: 18-24 years old: 5% 25+ years old: 2%	False positive rate: 18-24 years old: 4.1% 25+ years old: 14.1% False negative rate: 18-24 years old: 32.1% 25+ years old: 9.7%	For the baseline wave, increase the assumed misclassification rates for tobacco use status.

Study Component	Measure	Performance Standard	Field Test Result(s)	Comments
Sampling	Frame coverage rate (count of addresses in the address list frame purchased from the vendor versus count of housing units in Census 2010)	Design assumption: About 95% for urban areas and 70% for rural areas.	Above 93% for 14 of 15 field test PSUs.	Assumption is reasonable. Geocoding errors may affect the coverage rate in the way it is currently calculated. Address coverage enhancement procedures will be implemented in the baseline wave to improve coverage.
Sampling	Unweighted response rates*	Design assumptions: Household screener: 87% Extended adult interview (across individual screener and main interview): 90% Extended youth interview (including those directly sampled as youth and those originally sampled as shadow youth who later age into the youth cohort): 90%	Household screener: 39.7% Extended adult interview (across individual screener and main interview): 58.1% Extended youth interview (including only those directly sampled as youth): 62.6%	For the baseline wave, lower the expected response rates for both screener and extended interviews. The field test was not intended as a test of response rates.
Flow of Scientific Information				
Questionnaire Performance	Computer-assisted recorded interviewing review	Interviewers followed protocol, and questions performed as expected.	Interviewers had difficulty with some portions of the protocol, and some questions were hard to read as intended.	The protocol has been simplified to make it easier for interviewers to follow. Questions have been revised and restructured to make them easier to read as intended. Training procedures have been improved.

Study Component	Measure	Performance Standard	Field Test Result(s)	Comments
Questionnaire Performance	Items that produce inconsistencies	No inconsistent data.	Some inconsistent data were found.	Logic checks were implemented to reduce the amount of inconsistent data. Because the adult and youth interviews are self-administered, eliminating all inconsistent data is unfeasible.
Questionnaire Performance	Interview breakoff rate	Interview breakoff rate < 1.0%	Interview breakoff rate < 0.5%	No changes needed.
Questionnaire Performance	One-way frequency distributions of both continuous and categorical variables	Frequencies in expected ranges	Frequencies were in expected ranges	No changes needed.
Questionnaire Performance	Low variation items	Variation as expected for each item type	Variation was as expected for each item type	No changes needed.
Field Test Experiment: Household Screener Incentive ($0 vs. $5 vs. $10)	Household screener response rate	Household screener response rate is associated with incentive amount	Marginally significant difference in screener response rates: $0: 36.7% $5: 40.3% $10: 43.0%	Results suggested a positive effect of incentive amounts on the household screener response rates
	Household screener/youth extended response rate	Household screener/youth extended response rate is associated with incentive amount	No significant difference in conditional Phase 2/Youth extended response rates: $0: 59.4% $5: 59.7% $10: 64.0%	
	Number of contact attempts per screener	Number of contact attempts per screener is lower for higher incentive amount	No significant difference in contact attempts needed: $0: 5.2 $5: 5.0 $10: 4.7	

Study Component	Measure	Performance Standard	Field Test Result(s)	Comments
Field Test Experiment: Long vs. Short Household Screener	Household screener response rate	Household screener response rates are higher for short version	No significant differences in screener response rates: Long: 39.5% Short: 40.3%	The final version of the screener for the baseline wave combines the best features of both versions; it is shorter than the long version used in the field test (but longer than the short version).
	Individual screener/youth extended response rate	Individual screener/youth extended response rates are higher for short version	No significant differences in individual screener/youth extended response rates Long: 36.0% Short: 37.1%	
	Proportion of adults classified as tobacco users	Proportion of adults classified as tobacco users is higher for long version	Significantly higher proportion of adults classified as users with long screener: Long: 39.9% Short: 33.5%	
	Agreement between household and individual screener classifications	Agreement between household and individual screener classifications is higher for long version	Marginally significant difference in rate of agreement between household and individual screener classifications: Long: 92.3% Short: 88.0%	

*The sampling design assumptions are national, whereas the field test results are for a purposive selection of 15 PSUs.

Population Assessment of Tobacco and Health (PATH) Study
Field Test Report

Table of Contents

1. Introduction to the PATH Study Field Test Report

This report presents results from the Population Assessment of Tobacco and Health (PATH) Study field test conducted between December 2012 and February 2013. The purpose of the field test was to assess the performance of study components under field conditions. The field test results have helped to inform the PATH Study's baseline wave of data and biospecimen collection, as reported in this Information Collection Request to the Office of Management and Budget.

1.1 Organization of the Field Test Report

This report focuses on the main components assessed in the field test for the PATH Study's baseline wave, specifically:

- Questionnaires and instrumentation performance,
- Biospecimen collection and processing,
- Length of time for interviews,
- Interviewer workload needed to collect data,
- Operational yields of interviews and biospecimens collected,
- Sample design, and
- Two embedded experiments regarding the household screener interview.

The report includes a number of detailed tables in an appendix, except for Table 11, which is embedded in the text of this report.

1.2 Limitations of the Field Test Data

A major purpose of the field test was to assess overall protocol operations, including what worked well and what did not, and to guide decisions on needed improvements. It was not designed to yield results that could be generalized to the population as a whole. As such, information in this report is limited to the field test sample and to operational metrics specific to procedures used in the field

test. The field test was also based on a nonrandom sample of 15 primary sampling units (PSUs); with one exception, explained later in the text, the data in this report are unweighted.

Important limitations of the field test include:

- **Operations.** The field test implemented a limited protocol over a compressed data collection period. Many of the cases were incomplete, because work on them ended when the field test period ended. The refusal conversion protocol was briefly implemented for test purposes only; by contrast, the main study will implement this protocol on a consistent basis and for every appropriate case.
- **Sampling.** PSUs for the field test were purposively selected because their characteristics were of interest for the main study, such as population size, region, urban/rural locations, racial representation, and tobacco use behavior. Sample sizes were small, especially for rarer subgroups (e.g., 18-24 years old Black tobacco users); unless otherwise noted, estimates herein for these subgroups are unreliable.
- **Response Rates**. The field test focused on assessing the study protocol and overall operations within a compressed period of time; these priorities came first. Consequently, less emphasis was given to achieving high response rates or completing open cases still in process. These limitations will not apply for the main study, however, indicating that the low response rates in the field test should be viewed as the "worst case."

2. Operational Components of the Field Test

In this section of the report, field test findings are presented on questionnaire performance, biospecimen collection, interviewing and field operations, and sampling.

2.1 Questionnaire Performance

Questionnaire performance was assessed in the field test by examining computer audio recordings of select instruments, the interview breakoff rate, and data inconsistencies and distributions.

2.1.1 Computer Audio Recordings of Select Instruments

Computer Audio Recorded Interviewing (CARI) provides direct audio recording of the ambient sound during certain portions of the interview, consisting mostly of the conversation of the interviewer and respondent. Data in CARI recordings can be used for purposes of validating interviews, reviewing protocols, and reviewing the performance of questions. CARI files are large and can become operationally cumbersome; for this reason, use of CARI in the field test was limited to specific aspects of the interview identified as most informative to record.

For the PATH Study field test, CARI was employed to review both the performance of questions in the household screener and the biospecimen consent process.

Household Screener Interview CARI Review

Qualitative assessments of CARI recordings focused on problems with any questions, the questions asked by respondents, the use of show cards, and uncertainties or contradictions in respondent answers.

Table 1 provides an overview of the characteristics of respondents whose CARI recordings were qualitatively assessed. The 547 recordings reviewed and analyzed were selected based on household and respondent characteristics of interest, including age, gender, and household size.

The following issues were identified from the household screener recordings; the household screener has since been revised for purposes of the upcoming baseline wave.

- Household enumeration questions, including the number of people in the household and their basic demographic characteristics, did not appear confusing or difficult to either respondents or interviewers. An exception to this was the race question, where the long list of response options (i.e., 14 options read out loud by the interviewer to the respondent for each person who lives in the household) proved problematic. Respondents appeared to be increasingly irritated by having to listen to this long list for every person in the household, regardless of whether they were related to each other. This led interviewers to take shortcuts by, for example, skipping to the category the respondent had already identified for one household member to see if that same category applied for another household member.
- The tobacco use questions were difficult to administer, especially for the long version of the household screener. Here too, the detailed nature of these questions seemed to

lead interviewers to take shortcuts. For example, interviewers skipped the information they were supposed to read, such as information that appeared in parentheses and the brand name examples. Respondents also seemed increasingly irritated by these detailed questions.

- In an effort to shorten the screener, the tobacco use questions were structured so that a "yes" response to any tobacco use item skipped the respondent out of the rest of the section. This skip seemed to confuse interviewers, however, because the questions that prompted the skip were inconsistent in the section. This may have contributed to respondent irritation as well.

- Some questions appeared difficult for the interviewers to administer due to the way they were formatted on the computer-assisted personal interviewing (CAPI) questionnaire screen. For example, the question stem was visually separated from the response options in some cases, which led interviewers to ask the question in an awkward-sounding way or to mistakenly omit response options from the question.

- The field test used a number of hard-copy show cards for the household screener, such as show cards with pictures of tobacco products and cards with text response options (such as the 14 race categories). Interviewers used the show cards inconsistently.

- The contact information questions were lengthy but generally straightforward to administer and not problematic for respondents. This was not the case for the social media questions about the respondent's Facebook name or Twitter handle. Respondents were often unfamiliar with what these meant and occasionally seemed defensive or reluctant to provide the information.

- Questions on the relationship of everyone in the household to the sampled individuals were straightforward to administer and not problematic for respondents. Interviewers had some difficulty ascertaining the direction of the relationship, for example, was person X the son or father of person Y.

Biospecimen Consent CARI Review

CARI recordings of the biospecimen module were reviewed to understand respondents' reasons for refusing to provide biospecimens. The usefulness of the recordings was limited for this purpose, however: by the time the recording began, the interviewer had already moved on to discuss which specimens the respondent would consent to provide. Also, the length of the recording was shorter than desired. Still, some useful observations were captured in the recordings. Refusal reasons for not consenting to provide a blood specimen, for example, included not wanting another appointment, fear of needles, and discomfort providing specimens; refusal reasons for urine included concern about drug testing and the length of time for the collection.

2.1.2 Interview Breakoff Rate

A final breakoff refers to a questionnaire that began but was never completed. This discussion focuses on only final breakoffs. A breakoff point is the last item or section in the questionnaire that the respondent answered before the breakoff. Breakoff points are of interest if they occur in clusters around certain questions or question types, or at certain points in the questionnaire.

In the PATH Study field test, the breakoff rate was very low, with only 4 final breakoffs in the adult instrument and no final breakoffs in the youth instrument. The small number of breakoffs was insufficient for detecting a meaningful or useful pattern.

2.1.3 Data Review

As noted, the PATH Study field test was not designed to yield results that could be generalized to the population as a whole. Rather, its data were intended for use in improving operational and procedural aspects of the PATH Study's data and biospecimen collection protocol for the baseline wave. Consequently, PATH Study field test data were examined for inconsistencies, problematic frequency distributions, and notably low variance items.

- **Inconsistencies.** Data from all instruments were reviewed using automated error checking programs, cross tabulations, frequencies, and comment review to determine if data had been captured and stored correctly, algorithms were working as expected, and inconsistencies were properly identified. When an inconsistency was identified, data management staff proposed a logic check that highlighted the inconsistency for the respondent and prompted him/her to consider revising the response.
- **Frequency distributions.** One-way frequency distributions of both continuous and categorical variables were reviewed to identify questions that seemed to produce responses outside the expected range and distribution for similar questions. No out-of-range frequencies or unexpected distributions were identified.
- **Low variation items.** Variation in responses was examined for both continuous and categorical variables to identify questions that seemed to produce less variation in responses than expected for similar questions. No low variation items were identified.

2.2 Biospecimen Collection

Biospecimen collection was assessed in the field test by examining biospecimen consent rates; collection, packaging, and shipping; and processing at the repository.

2.2.1 Biospecimen Consent Rates

Table 2 presents the rates of biospecimen consent by biospecimen type and various respondent characteristics. Some of the break-outs indicate that: (1) users of tobacco products consented at higher rates than non-users, (2) users of controlled substances consented at a higher rate than non-users (although the counts are not high), (3) consent rates trended downward from the 18-24 age category to the 65 years and older category, and (4) persons with less education consented at a higher rate than persons with more education.

2.2.2 Biospecimen Collection, Packaging, and Shipment

Blood was collected by a trained professional or phlebotomist during a second scheduled visit following the interview. Table 3 shows the rate of successfully collecting each blood tube type over all blood collections.

Table 4 shows the rate of successfully collecting urine from respondents who consented, 81.8 percent overall (234/286). The weight of collected urine is recorded on receipt at the repository. 79.5 percent of collections weighed >= 42.7 grams, the amount of urine needed to create all of the intended aliquots. Persons 65 years old or greater had a higher rate of specimens weighing below the 42.7 gram threshold.

The buccal cell specimen was always collected a short time after the biospecimen consent was administered. Table 5 shows that collection of the specimen was successfully collected for 98.3 percent of respondents who consented (349 out of 355).

When a biospecimen was not collected from a respondent who consented, the reason for not collecting the specimen was recorded. This was an infrequent occurrence (n=29 blood and n=32 urine collections). The main reason for not collecting blood (n=14) and urine (n=14) was "no show," recorded when the respondent did not keep a scheduled appointment.

Blood was collected by phlebotomists at separate visits following the interviews; urine was collected at most of these visits as well. Table 6 shows that for respondents who consented to blood collection, a visit was conducted for 96.0 (213/222) percent of them, and blood was collected for 83.3 (185/222) percent. For the 4 percent of respondents for whom a visit was not conducted, the reason was the inability to successfully schedule an appointment. A visit was conducted but a blood specimen was not collected for 13 percent of respondents; this was due to 6 percent "no shows" (respondent not at home) and no reason was recorded for the remaining 7 percent.

Blood specimens were to be collected within an optimal window from the 3rd to 14th day after the adult interview if possible or within an acceptable window up to 21 days after the interview. Table 7 shows that the median number of days between the interview and day of blood collection was 7. In 6 of 15 PSUs, all collections were completed within the optimal window (Max <= 14 days); and, in all but two PSUs, all collections were completed within the acceptable window (Max <=21 days). All PSUs except one performed similarly to each other in terms of the median number of days. The one exception was 10 days; this PSU also had a small number of collections (n=6).

The goal for shipping specimens was to minimize the time in transit using FedEx Priority Overnight shipping. Ideally, specimens collected on weekdays would be delivered at the repository the next morning. However, specimens collected late on Friday or on Saturday and Sunday would not ship until Monday. Because transit times could be as long as 72 hours, packing and shipping procedures had to be designed to keep specimens cold for 72 hours. Table 8 presents the times in transit observed for the different packing day segments. Focusing on interviewer- and phlebotomist-initiated shipments, the median times in transit for specimens collected on weekdays before 6:00 pm were less than 24 hours. For specimens collected on Fridays after 6:00 pm, the median time in transit increased to 38 and 37 hours for interviewers and phlebotomists, respectively. For specimens collected on Saturday the median time in transit was 65 and 74 hours for interviewers and phlebotomists, respectively. For specimens collected on Sunday, the median time in transit was 42 and 47 hours for interviewers and phlebotomists, respectively. Some very long times in transit were observed. These collections occurred during the Christmas and New Year holidays, when some collected specimens had to be held for some days due to FedEx and repository schedules.

Table 9 presents the time from specimen receipt to the start of processing at the repository for the collected specimens that were processed. The median time for all specimens was 3 to 4 hours, and the maximum recorded time was 8 hours.

2.2.3 Processing at the Repository

Table 10 summarizes the number of aliquots created at the repository for each parent specimen type. For urine, all expected aliquots were created when the minimum required amount (42.7 grams) was collected. As expected, fewer aliquots were created when less urine was collected. For plasma (EDTA) and serum, fewer 0.75mL vial aliquots were created than expected from the processing protocol. The explanation is that these are the last aliquots created per the protocol and were not made when the yield of plasma or serum was less than expected.

2.3 Interviewing and Field Operations

Interviewing and field operations were assessed in the field test by examining interview length of time, interviewer workload, and interview yields.

2.3.1 Interview Length of Time

Testing the length of time (or "timings") for the various interviews was a key objective of the field test. Interview timing has an impact on respondent burden, operational planning, and cost.

Table 11 summarizes three sets of timings for the various instruments and components: (1) as estimated for the PATH Study field test OMB package, (2) as ultimately desired for the full baseline implementation, and (3) as actually experienced in the field test. The estimates presented in the field test OMB package were based on in-house timing tests performed on the final field test versions. These estimates were set slightly higher than the desired targets, because one purpose of the field test was to include as much of the desired content as possible in the core instruments before determining whether any items had to be cut for the baseline.

In terms of the instrument timings, the main goal for the field test was to measure the length of time each instrument would require in a real-world setting that was as comparable as possible to the baseline wave of data collection. The primary metric was the mean time required to administer each instrument across all respondents; other indicators included standard measures such as the median, minimum and maximum time required for each instrument.

Table 11. Comparisons of PATH Study Instrument Timings

Interview	Projected mean timing for field test in OMB package (minutes)	Desired mean timing target for full implementation at baseline (minutes)	Actual mean timing from the field test (minutes)
Household Screener	17	15	Short: 12.7 Long: 14.0
Adults – Individual Screener	6	Included in Adult Extended	6.4
Adults – Extended Interview	69	60	42.0
Adults – Biospecimen Collection Forms	9	Not projected	*
Adults – Tobacco Use Form (NEQ)	2	Not projected	3.5
Adults – Followup/Tracking Participant Information Form (contact information)	6	Included in Adult Extended	7.9
Youth – Extended Interview	35	30	32.2
Adult – Parent Interview	19	15	7.8

* Data not available; timings for the various biospecimen collection forms (other than the Tobacco Use Form) were not tracked separately from the activities that involved these forms (e.g., urine collection, blood collection).

The timings presented exclude a few outliers that appear to be the result of human or machine error (e.g., the computer continuing to record the time after the interview was completed). As a result, the number of observations for the same instrument may vary between this section and other sections of this report.

Phase 1 Household Screener

Table 12 presents the household screener timings, by screener version (long or short) and household size. Differences between the two versions were as expected—the longer version took longer to administer, on average. Overall, the mean time for the long version was 14.0 minutes, and for the short version it was 12.7 minutes. The timings increased with household size in both versions; and, for the same-sized household, the longer version always took more time on average than the shorter version. For both versions, the timings ranged from under 3 minutes to approximately one-and-a-quarter hours.

Phase 2 Individual Screener

As shown in Table 13, the mean time to complete the Phase 2 screener was 6.4 minutes across all respondents. (For consistency with other tables and with the other panels in this table, the analysis includes only those who were actually sampled in Phase 2 to continue in the survey and completed the extended adult interview [n =461].) The range was from 2.0 minutes to 19.7 minutes.

Table 14 examines the Phase 2 screener timings by tobacco use status and the number of products used. For this assessment of Phase 2 screener timings, tobacco use has been classified as ever user of tobacco and never user of tobacco, because ever use of a given product triggers questions about that product. The mean time for never users was 5.3 minutes and for ever-users it was 6.6 minutes. The mean time generally increased as the number of products ever used increased. The maximum time for completing the Phase 2 screener was 19.7 minutes, for a respondent who had ever used four or more tobacco products.

Table 15 is similar to Table 14, but breaks out the Phase 2 screener timings for never users and ever users by four age categories. The mean time generally increased with age for both never users and ever users; the exception to this pattern was for the 65 years and older never user group, but this finding is not reliable due to the small sample size. Across the two user groups, the ever users always had higher timings than the never users for the same age group.

Adult Extended Interview

Table 13 examines the timings for completed adult interviews. It disaggregates the various components and sections of the interview and also breaks the timings out by tobacco use status. As compared with Tables 14 and 15, where tobacco use was characterized by ever use, this table characterizes tobacco use by current use or no current use (i.e., never or former users).

Across all respondents included in the table (n = 461), the mean timing for the entire adult instrument was 48.4 minutes, which includes the Phase 2 screener (6.4 minutes) and the balance of the substantive sections of the adult extended interview (42.0 minutes). The mean timing for entire adult instrument ranged from 16.5 minutes to over two-and-a-half hours (154.1 minutes).

The Contact section required 7.9 minutes on average. The Consent section and ACASI Tutorial section (on answering self-administered questions) took a mean time of 12.0 minutes. The Total

Interview Process covering all the components of the adult interviewing process (Consent and Tutorial, Phase 2 screener, Extended Interview, and Contact Information) took a mean time of 63.7 minutes. The Health Effects Outcome section averaged 14.1 minutes.

The Current Tobacco Users (n = 227) and Current Non-Users (n = 234) panels of Table 13 allow comparisons between current tobacco users and current non-users in regard to the adult interview timings. As observed in the Phase 2 screener, the timings for the users were consistently higher than for non-users, for the overall extended interview and for the individual tobacco-related sections; but the timings were more or less comparable for sections not directly dealing with tobacco use (i.e., most of the sections in the latter half of the instrument).

Table 16 breaks out the adult extended timings by age, education, and gender, and, as in Table 13, further by current tobacco use status. The mean time increased with age and decreased with education; men took slightly longer than women (all respondents). Each of these demographics is known to interact with tobacco use status; and tobacco users, generally speaking, have more questions to answer in the PATH Study interview. However, these demographic patterns do not seem to be confounded by the tobacco-use interaction; that is, they manifest themselves consistently for both tobacco users and non-users, albeit with lower mean timings for the non-users than the users.

Table 17 further demonstrates the expected impact of current tobacco use on the adult extended interview timings. Among current users, the mean time increased consistently with the number of products currently used (although a small number of respondents were currently using 3, or 4 or more products). This pattern was not evident for the nicotine dependence section, however, because the dependence section questions were asked only once for tobacco in general, regardless of which or how many products were used.

Youth Extended Interview

Table 18 shows that the mean time for the youth extended interview was 32.2 minutes for all respondents, and longer for the small number of current tobacco users (49.7 minutes, n = 9) compared to the large number of current non-users (30.9 minutes, n = 114). The timings ranged from 11.0 minutes to 73.1 minutes.

Timings by instrument section indicate that the higher timings for current tobacco users are in the sections on tobacco use. This can be seen by comparing means in the current tobacco users panel to the means in the same respective rows in the current non-users panel. For example, the mean for the cigarette use section is 5.7 minutes for tobacco users and 2.1 minutes for non-users. In contrast, with a few exceptions, the means for the sections that do not deal directly with tobacco use (mainly those at the bottom of the table) are similar between the two groups.

Table 19 shows virtually no difference in the timings for the younger youths (12 – 14 years old) and the older ones (15 – 17 years old). The means and medians are nearly the same for the two age groups, overall and for current tobacco users and non-users.

The number of products used seemed unrelated to the length of the youth interview for current tobacco users, as compared to the adult interview, where the relationship was more apparent (Table 20 vs. Table 17). However, the small number of youth users (9) and the near absence of youths who used more than one product suggest that these findings be considered highly preliminary.

Parent Interview

As seen in Table 21, the mean time to administer the Parent Interview was 7.8 minutes, with a range of 3.0 minutes to 18.2 minutes.

2.3.2 Interviewer Workload: Interviewer Hours per Case

The overall hours per completed case has importance for estimating future data collection costs. To compute hours per completed case for these analyses, a completed case was defined as a sampled dwelling unit for which a household screener was completed, and the amount of time required for that case covers all in-home activities related to screening, individual interviews, and any specimens collection by the field interviewer. Hence, the results presented in this section are at the dwelling unit level. Operationally, hours per case includes all time logged on interviewer tablet computers for all PATH Study activities completed within those dwelling units. This measure excludes the sizable number of interviewer hours allocated to contact attempts; it also excludes interviewer hours allocated to administrative activities and hours expended by the phlebotomists.

As indicated in Table 22, the mean number of hours per completed case was 1.1 hours, and the median was 0.6 hours. This table breaks out the number of hours for completed cases by the number of sampled persons for dwelling units. The mean number of hours per completed case increased steadily with the number of sampled persons, from 0.2 hours for no sampled person to 6.3 hours for four or more sampled persons.

The mean number of hours per completed case varied by the specific combinations of sampled persons at dwelling units. The mean number of hours was smaller for one sampled youth (1.2 hours) than for one sampled adult (1.5 hours). (For this table, sampled is defined as sampled at the Phase 1 screener stage.) Although one might expect to see fewer hours per sampled person in households with multiple sampled persons, this was the case for youth but not for adults. The mean for one sampled youth was 1.2 hours, but for two sampled youths, it was 2.0 hours (i.e., less than double the hours for one youth); the mean for one sampled adult was 1.5 hours, but for two sampled adults it was 3.4 hours (i.e., more than double the hours for one adult). For the same number of sampled persons, one can see a consistent downward gradient as the mix goes from more adults/fewer youths to more youths/fewer adults. This phenomenon reflects the countervailing effects of the shorter youth interview and the need to contact and interview two persons per youth (youth and parent) plus the additional time for the parent interview.

Table 23 breaks out the number of hours for completed cases by the number of extended interviews completed per dwelling unit. The mean number of hours per completed case increased steadily with the number of completed extended interviews, from 0.4 hours for no completed interviews to 7.0 for four completed interviews.

The number of hours per completed case varied by specific combinations of extended interviews completed at dwelling units, and by the number of sampled adults who provided cheek cells and/or urine samples. The mean number of hours was smaller for one sampled youth extended interview (1.5 hours) than for one sampled adult extended interview (2.0 hours). For both youth and adults, one can see efficiency in fewer hours per completed interview in households with multiple extended interviews. The mean for one interviewed youth was 1.5 hours, but for two interviewed youths, it was 2.3 hours (i.e., less than double the hours for one youth); the mean for one interviewed adult was 2.0 hours, but for two sampled adults it was 3.7 hours (i.e., less than double the hours for one adult). The same gradient observed in Table 22 for the numbers and combinations of sampled adults and youths likewise occurs for the numbers and combinations of interviewed adults and youths.

In addition, this table indicates that the hours per case increased dramatically by the number of adults who provided cheek cells and/or urine specimens. For example, the mean number of hours was 0.6 for cases with no adults providing specimens and 4.2 hours for those with two adults providing specimens. Potential reasons for the number of hours being high for the cases with biospecimen collections include: (1) some collections required follow-up visits, which decreased efficiency; and (2) perhaps more important, adults who provided biospecimens also completed extended interviews, whereas the group with no specimens is a mixture of sampled adults who were interviewed but provided no specimen and sampled adults who were not interviewed at all.

2.3.3 Response Rates

This section presents information on response rates based on completed interviews at various sampling stages. Using "response rates" in this context is limited, however, because:

- The sample is not a random sample.
- The percentages are not weighted, as is best practice for reporting response rates.
- The field test did not implement the full contact protocol over a full data collection period as will apply to the main PATH Study survey. This means that many cases in process were incomplete, because they stopped at the end of the field test period.

Table 24 presents the interview response rates for each sampling and interviewing stage, in the order in which they occur in data collection. The field sample of addresses resulted in 2,944 addresses confirmed (or presumed in the absence of evidence to the contrary) to be residential, which are defined as the addresses eligible for PATH Study and at which a completed household screener was sought. The field test completed the screener at 1,170 (39.7%) of these addresses.

The 1,170 completed household screeners resulted in 1,152 adults sampled for the Phase 2 screener. The Phase 2 screening process was completed for 698 (60.6%) of these sampled adults. Notably, the yields were higher for those sampled in the household screener as tobacco users (66.0%) than as non-users (55.2%).

The 698 completed Phase 2 screeners produced 501 adults sampled for the field test, of which 480 (95.8%) yielded completed adult interviews. The target number of completed adult interviews for the field test was 600. The obtained sample size of 501 adults was judged to be large enough to test the instrument across a variety of respondent characteristics and all the sampling strata, as well as to test

the performance of the questions across various major skip pattern paths, while being small enough to accomplish within the field test's timeframe and budget.

The Phase 2 screener response rates by tobacco use status are associated with the adult interview response rates by tobacco use status, because of two factors: (1) as discussed in Section 2.4, the Phase 1 tobacco use status conformed well with the Phase 2 tobacco use status; and (2) most who completed the Phase 2 screener and were sampled for the adult interview completed the adult interview. With this consideration in mind, response rates for completed interviews were slightly higher among those sampled at Phase 2 as tobacco users (96.9%) than among those sampled as non-users (91.9%).

The household screener also produced 195 youths sampled for the field test. By design, the field test subsampled youths in order not to greatly exceed the target of 100 completed youth interviews. This target was set to produce a sufficient number of completed youth interviews to test the performance of the questions across various major skip pattern paths, while balancing the data collection cost for the youths with the demands of the various other objectives of the field test. Of these 195 sampled youths, 122 completed the interview (62.6%). The response rates were nearly identical for younger and older youths, a desirable result.

Among the 195 parents/guardians identified for the 195 sampled youths, the field test completed interviews with 128 of them (65.6%). The response rates were nearly identical for parents of both younger and older youths. Not shown in the table is the fact that every interviewed youth had a matching interviewed parent; the exception was one emancipated youth for whom, by definition, a parent/guardian was not applicable.

Table 25 examines nonresponse at each stage. For each set of non-responders, it breaks out the percentages attributable to each of the major reasons for nonresponse. The reasons are as follows.

- **Refusal.** Someone refused to participate in an interview. Typically, this is the targeted person, but sometimes is another household member (a so-called gatekeeper) who refuses as a proxy to allow access or to convey to the sampled person the request for an interview.
- **Maximum Contacts.** At least one contact was made with the targeted person (e.g., an adult in the household to conduct the household interview, the sampled adult, sampled youth, or youth's parent), but after making repeated attempts to conduct the interview, the effort was not successful before reaching the maximum of six in-person

attempts allowed by the data collection protocol (or after an increased number of contacts was made beyond the minimum of six, as circumstances warranted).

- **No Contact.** Similar to Maximum Contacts, except that, after at least six attempts, no contact was actually achieved with the targeted person.
- **Language barrier.** The targeted person did not speak English (the only language in which the field test was conducted).
- **Physical Barrier.** The interviewer was unable to gain physical access to the dwelling unit, due to restricted access situations such as gated communities or controlled-access buildings.
- **Other.** For the field test, this category included cases that were still in process at the end of the field period and did not qualify for the other categories in the table.

Typically, refusal is by far the most common reason for survey nonresponse, and that was the case for all the discrete stages presented in Table 25. (The adult extended interview stage is excluded from this statement because it is not discrete from the Phase 2 screener in the eyes of the respondents, so refusals rarely apply to this stage.)

For the household screener, 59.7 percent of the nonresponse was due to refusals and 21.7 percent to maximum contacts. This is as expected for an in-person household-based survey. Another 10.5 percent was due to language barrier; the addition of Spanish interviews to the main study is expected to reduce this loss.

For the Phase 2 screener, 50 percent of nonresponse was due to refusal, and another 20 percent was due to No Contact. The latter phenomenon means that the interviewer was never able to make contact with the adult who was sampled from the household screener. The sources of nonresponse were similar for Phase 1 tobacco users and non-users.

As noted, nonresponse was small for the adult interview that flows seamlessly from the Phase 2 screener. Most nonresponse fell into the All Other category, and may include breakoffs in the middle of the instrument. Interpreting the percentages presented in this panel should consider the small numbers in the nonresponse group. For example, the 85.7 percent of nonresponse in the All Other category for all adult interviews is only 18 cases (out of the total of 21).

As with the adult interview, the preponderance of nonresponse to the youth and parent interviews is due to refusal and non-contact, ignoring the All Other category which consists predominantly of in-process cases on which work was stopped due to the end of the data collection period. The

distribution of the reasons for nonresponse was similar for parents of youths in both age groups and for the youths in both age groups; again, the actual small numbers underlying apparently large differences in percentages should be taken into account.

For the three individual-level interviews (adult, youth, and parent), the large percentages appearing the All Other category are a function of small numbers and also of the artificial stopping of data collection efforts at the end of the field test period.

2.4 Sampling

Sampling was assessed in the field test by examining unweighted data pertaining to design assumptions; and weighted frame coverage rates, occupancy rates, response rates, and effective coverage rates.

2.4.1 Unweighted Estimates for Examining Design Assumptions

The sample design was based on assumptions about housing unit eligibility rate, screener and main interview response rates, distributions of 9-to-11 year-olds and 12-to-17 year-olds, distribution of adults in the sampling domains cross-classified by age, race, and tobacco use, as well as rates of misclassification of household members' tobacco use by household informants. Tables 26 through 28 compare the unweighted estimates of housing unit eligibility rate, household response rate, presence of youth, distribution of enumerated adults, and misclassification of tobacco use against the expected quantities, to assess the accuracy of the design assumptions. Although the size of the field test sample is too small to yield precise estimates, large differences between design assumptions and the actual field test results can point to aspects of the sample design that need to be reviewed and modified.

Table 26 shows that the design assumptions for housing unit eligibility rate and presence of youth are reasonable. The unweighted screener response rate (raw sample yield) from the field test is 40.1 percent. The field test experience of the screener response rates needs to be qualified by issues discussed earlier, namely the reduced protocol and shortened field period of the field test. Nonetheless, the field test experience, in conjunction with screener response rates in other similar household field studies such as the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), argues for lowering the household screener response rate assumed for the

purpose of designing the main study, and the total number of sampled addresses would need to reflect the revised expectation.

Table 27 gives the unweighted counts and proportions of the enumerated adults in the eight sampling domains defined by age, race, and tobacco use. The field test result is based on the information provided by the household informants in screened households. The design assumptions were obtained by multiplying the population counts from Census 2010 (by age*race) by the estimated tobacco use rates (by age*race) from the TUS-CPS conducted in 2006-2007 that included both self-response and proxy-response. Alternative parameters of population distribution can be obtained by using the estimated tobacco use rates from the National Survey of Drug Use and Health (NSDUH) and the National Health Interview Survey (NHIS); and these parameters are also shown in Table 27. The percentage columns show the distribution across the entire population (i.e., they sum to 100 percent).

The distribution of the enumerated adults in screened households and the assumed population distribution seem substantially different in some sampling domains. For example, the proportion of non-Black 18 to 24 year-old tobacco users is 7.2 percent in the PATH Study field test and 2.2 percent in TUS-CPS 2006-2007; and the proportion of non-Black 25 years and older tobacco non-users is 42.5 percent in the PATH Study field test and 61.0 percent in TUS-CPS 2006-2007. The following factors may help explain the divergence of the field test result from the design assumptions.

- The field test result reflects the distribution of screener respondents in the 15 PSUs chosen for the field test, while the design assumptions are based on national estimates. The distribution of adults by age, race, and tobacco use in the 15 field test PSUs may not align with that in the nation; indicators of higher tobacco use and minority populations in some PSUs were one of the purposive sampling criteria for the field test PSUs.

- If the screener response rates differ by household characteristics (e.g., Black vs. non-Black households, households with tobacco users vs. those without) or the household informant tends to miss adults in particular sampling domains (e.g., young persons who may be more mobile), then the tabulation based on the screener respondents' information may diverge from the population distribution.

- The small sample sizes in some domains make the estimates unstable (e.g., Black 18 to 24 year-old tobacco user).

- The estimates of tobacco use rates differ considerably between the available external data sources, as shown in the columns for TUS-CPS 2006-2007, NSDUH 2010, and NHIS 2010. The difference between these external sources may be partly explained by

data collection mode, length of field period, and the form of the questions and the tobacco products used in the definition of tobacco use. The PATH Study definition of tobacco use is more inclusive than the definitions used in any of the other surveys.

Despite the various factors contributing to the differences between the field test results and the design assumptions, Table 27 does clearly show that the observed tobacco use rates are noticeably higher in all the four groups defined by age and race (i.e., Black 18-24 years old, non-Black 18-24 years old, Black 25 years and older, and non-Black 25 years and older). Although no formal statistical tests were conducted, the consistency and magnitude of these differences indicate that consideration should be given to increasing the Phase 1 adult tobacco use rates assumed for the purpose of designing the sampling for main study, and the increase may vary across the four groups. As part of the final sample design process, the PATH Study team will further investigate this issue by examining the 15 field test PSUs individually, including the PSU characteristics (e.g., rural vs. urban), population distribution, and response rate; this investigation will help decrease the uncertainty in determining the sample design parameters for the main study.

Table 28 shows the tobacco use misclassification rates (i.e., false positive rates and false negative rates of the Phase 1 reporting.) The cases in the supplemental sample[1] were included in the analyses to give a larger sample size for estimating the false negative rates.. The Phase 1 information was provided by the household informant, and Phase 2 information was based on self-reporting. False positive means that the sampled person was classified as a tobacco user based on the Phase 1 household screener but as a non-user based on the Phase 2 self-report; false negative means that the sampled person was classified as a tobacco non-user based on the Phase 1 household screener but as a user based on the Phase 2 self-report. For the purpose of sampling, an adult is considered as being misclassified with respect to tobacco use status if the category *assumed* for sampling at Phase 1 differs from the category we *assumed* for sampling at Phase 2. That is, if the household informant did not provide enough information to determine tobacco use status at Phase 1, the household member in question was assumed to be a user for sampling at Phase 1. So cases where the tobacco use status was unknown at Phase 1 contribute to the denominator of the false positive rate. In addition, the Phase 2 self-reported tobacco use information was simply categorized into "confirmed user" versus "not a confirmed user". Hence, cases with unknown tobacco use status at Phase 2 can potentially increase the false positive rate (if sampled as a user) or decrease the false negative rate (if sampled as

[1] A supplemental sample was selected to increase the sample size for evaluating the false negative rate of tobacco use status reported by the household respondent.

a non-user). Such an approach for computing the misclassification rates is most relevant from the perspective of sample design and monitoring.[2]

The assumed false positive rate going into the field test was 5 percent for both age groups. The assumed false negative rate was 5 percent for the 18-24 years old group and 2 percent for the 25 years and older group. The observed false positive rate for the 25 years and older group is 9.1 percentage points higher than the assumed rate. The observed false negative rates are also much higher in both age groups (approximately 32.1 percent for the 18-24 years old group and approximately 9.7 percent for the 25 years and older group) than the assumed rates. The misclassification rates are also reported separately for the short screener questionnaire and long screener questionnaire. For the 25 years and older group, the false positive rate was 6.9 percent for the short screener and 20.5 percent for the long screener; the false negative rate was 14.1 percent for the short screener and 4.3 percent for the short screener. A similar pattern is observed for the 18-to-24 year-old group in terms of the difference between the two screener versions. The short screener resulted in lower false positive rates and higher false negative rates than the long screener. At the time of designing the field test, limited information was available for estimating the rates of tobacco use reported by a household informant on behalf of all adult household members. The information gathered through the field test can now be incorporated into adjusting these assumptions.

The design assumptions were based on the limited data available on this topic, which derives from random digit dialing telephone surveys done in the 1990's that addressed only cigarette smoking. Indeed, while 5 percent may have been used as the design assumption for the false negative rate for 18 to 24 year-olds, household respondents who were not themselves the sampled 18-to-24 year-olds might often be completely unaware that young adults were using tobacco, a speculation consistent with the high false negative rate for this age group. Alternately, the "wide net" approach to the screening could be hypothesized to make the false positive rates higher than the false negative rates, a relationship seen for the older adults.

[2] The later discussion of false positives and false negatives in the context of the field test experiment using long and short versions of the household screener focuses on instrument validity, rather than operational sampling. As such, it excludes all cases with undetermined tobacco use status from the analysis.

2.4.2 Weighted Frame Coverage Rates, Occupancy Rates, Response Rates, and Effective Coverage Rates

As mentioned in the Introduction, the 15 field test PSUs were purposively selected. Within each PSU, multi-stage probability samples of adults, youth, and/or shadow youth were selected. The first-stage sampling units were groups of Census blocks (referred to as segments); the second-stage sampling units were housing units within sampled segments; and the last-stage sampling units were adults, youth, and/or shadow youth from eligible responding households. For the adult sample, tobacco users, 18-to-24 year-olds, and Black persons were disproportionately oversampled. To understand how the target population responded to the survey, weighted household-level and person-level response rates were calculated by PSU. At the same time, the coverage rates of the address frame (for housing unit sampling) provided by the external vendor were also evaluated.

To facilitate the weighted analyses, within-PSU base weights were computed separately for each PSU that took into account the selection probabilities for sampling within the PSU. (PSU-level weights were not constructed because the PSUs for the field test were purposively selected.) The main reason for creating base weights was to produce estimates of population proportions and totals that would account for the oversampling of particular subgroups in the field test. The initial step of weighting was to construct household base weights for the sampled households using the inverse of the probability of selection for that household. The household base weights are used for calculating weighted household response rates.

For adults, two sets of base weights were developed. The person-level base weight as the result of Phase 1 screening and sampling (referred to as "Phase 1 adult sampling base weight") was calculated as the product of household-level base weight and the inverse of the person-level selection probability for Phase 1 sampling. The Phase 1 person-level selection probability depended on both household composition and predetermined rates of selection that were set according to a person's age, race and tobacco use status reported by the household informant during the Phase 1 screener. The sampled persons, selected at Phase 1, were administered the Phase 2 screener, and "Phase 1 adult sampling base weight" was used to calculate the weighted Phase 2 screener response rate.

The second set of adult base weights was developed for calculating the weighted extended interview response rate. The persons who responded to the Phase 2 screener were subsampled for the extended interview based on the self-reported age, race, and tobacco use information, and the corresponding weight (referred to as "Phase 2 adult sampling base weight") is the product of the "Phase 1 adult sampling base weight" and the inverse of the subsampling factor.

For both youth and shadow youth, the person-level weight was computed by multiplying the household base weight by the inverse of the selection probability for the youth or shadow youth that was sampled.

Ideally, sample yields and weighted response rates could be examined separately by version of the household screener administered and incentive amount. However, the limited size from the field test does not support such refined analysis by PSU.

Table 29 shows the address frame coverage rates, housing unit eligibility rates, and weighted household response rates for the 15 field test PSUs. The address frame had very good coverage in general, with over 93 percent coverage rate for 14 of the PSUs. The only exception is PSU 304 where the coverage rate is 88.3 percent. The coverage of address frame in a particular area depends on various factors. The main study will evaluate the coverage of the address frame for the sampled segments.

The housing unit eligibility rates generally align with what was assumed for the sample design (88.6 percent). A few PSUs seem to be outliers, such as PSUs 309 (75.3 percent) and 311 (82.6 percent). This could be due to the small sample sizes and the clustering effect of multi-stage sampling, which made the estimates unstable.

The weighted household response rates were above 30 percent for all the 15 PSUs except PSU 313 (24.3 percent). In general, household response rates seem higher in rural PSUs and PSUs with highly educated populations.

Table 30 provides information about person-level response rates for adults. A sampled adult at the end of Phase 1 screener was expected to first respond to the Phase 2 screener, and then (if sampled) the extended interview. The table shows the unweighted counts of sampled persons, the unweighted counts of respondents, and weighted response rates for both the Phase 2 screener and extended interview. Phase 2 screener response rates were above 50 percent for all the PSUs except PSU 313 (30.4 percent). Extended response rates were above 88 percent for all the PSUs except PSU 310 (77.6 percent). Once the target respondents had completed the Phase 2 screener (which included an extensive list of items), they were likely to cooperate further. Again, the sample sizes are very small for some PSUs, so the adult-level response rates should be interpreted with caution.

Tables 31 and 32 show the weighted response rates for youth ages 12-17 and the weighted proportions of youth ages 9-11 whose parents/guardians agreed to be contacted during follow-up waves. These rates vary significantly across PSUs. due to the very small sample sizes and should not be over-interpreted.

3. Field Test Experiments

One purpose of the field test was to conduct an experiment to compare two versions of the Phase 1 screener. The longer version of the screener included 11 questions about tobacco use administered to the household informant about each adult member of the household. The shorter version included four questions about each adult's tobacco use. The main hypotheses were that the longer screener would result in greater accuracy but lower response rates. Accuracy, in this case, would be measured by agreement with the results of the Phase 2 screener questions. The Phase 2 screener was the "gold standard," because the data were obtained directly from the sampled person and the questions were self-administered via audio computer-assisted self-interviewing (ACASI) rather than administered by the interviewer. The short screener, which consolidated the different tobacco products into fewer items, was hypothesized to result in higher response rates but reduced agreement with the Phase 2 screener.

The field test also compared three levels of incentive for the screener. Any possible impact of the longer screener on response rates might be reduced or eliminated if sample households received a monetary incentive. Hence, the field test experiment crossed the incentive variable with the screener version variable. Households were offered $0, $5, or $10 as a promised incentive for completing the household screener. They were informed of the incentive in the advance letter, as well as at the time of the interview. Each sample dwelling unit was randomly assigned to one of the two screener versions and one of the three incentive amounts. The randomization took place centrally and was done before the dwelling unit was fielded.

The analysis of the experiment focuses on four main outcomes: (1) household screener response rates; (2) rates of tobacco use according to the household screener; (3) response rates to the Phase 2 screener and extended interview; and (4) agreement between the household and Phase 2 screener tobacco use classifications. The hypothesis regarding the response rates to the Phase 2 screener and adult extended interview was the larger incentive for the household screener might create good will

that carried over to subsequent data collection activities. All the analyses reported here are unweighted.

3.1 Field Test Screener Response Rates

Table 33 shows the Phase 1 (household) screener response rates. The first two columns show the residential occupancy rates for the sampled addresses; the next two columns show household-level screener response rates; and the final two, the person-level screener response rates (percentage of enumerated persons for whom screener data were obtained) within households in which at least one person was enumerated and screened.

As the table shows, neither experimental variable seemed to affect the number of addresses that the interviewers classified as occupied residences. Regardless of which screener was used or which incentive was offered, interviewers found about 90 percent of the addresses to be occupied dwelling units. An effect of incentive level on this outcome was not expected and none was found.

The incentive did seem to produce an increase in the household-level screener response rates: 36.7 percent of households completed the screener when no incentive was offered versus 40.3 percent with the $5 incentive and 43.0 percent with the $10 incentive. The incentive effect on screener completion was marginally significant when the clustering of the observations by PSU was taken into account (Rao-Scott χ^2=5.82, df=2, p<.06). Neither the version of the screener nor the interaction between the screener version and incentive affected the household-level response rate significantly.

Within households where full screener data was collected about at least one person, both the incentive level and screener version affected the proportion of household members for whom screening data were obtained. In general, these proportions were high (90 percent or higher), but both the incentive and the screener version had significant effects on this variable. The person-level screener response rate (the rate at which full screener data was collected about each individual household member) was highest in the no incentive group (97.3 percent), intermediate in the $5 incentive group (95.3 percent), and lowest in the $10 group (94.2). The person-level screener response rate was very high with the short screener (99.8 percent) and considerably lower with the long screener (91.3 percent). When the clustering by PSU is taken into account, both effects are statistically significant (Rao-Scott χ^2=6.89, df=2, p<.05, for the incentive effect; Rao-Scott χ^2=77.5, df=1, p<.001, for the effect of the screener version). The difference in person-level response rates

between the two versions of the screener reflects the larger number of items in the long screener. When a person was missing data for one or more relevant screener items, he or she could not be classified as a tobacco user or not and was counted as a nonrespondent in this analysis. The finding regarding the incentive effect is difficult to interpret.

3.2 Household Screener Tobacco User Rates

Table 34 shows the rates of reported tobacco use for households and adults for each incentive group and for the two versions of the screener. The table shows rates for all users (users within the last 30 days of cigarettes, cigars, pipes, or dissolvables and lifetime users for all other products), as well as separate figures for persons who reported smoking cigarettes, cigars, or pipes. The short screener did not explicitly mention cigarillos or filtered cigars. Households and individuals screened with the longer version of the Phase 1 screener were more likely to be classified as tobacco users than those screened with the shorter screener. The effect of the screener version was significant for both the proportion of households classified as having at least one tobacco user and for the proportion of adults classified as tobacco users (Rao-Scott χ^2=9.21, df=1, p<.05 for the proportion of households and Rao-Scott χ^2=8.72, df=2, p<.01 for the proportion of adults); these significance tests take into account the clustering of the sample by PSU. The screener version also affected the proportion of adults reported to smoke cigarettes, pipes, or cigars (Rao-Scott χ^2=4.60, df=1, p<.05), again taking the clustering of the sample by PSU into account. The longer screener clearly classified more persons as tobacco users than the shorter version.

3.3 Response Rates to the Phase 2 Screener and Extended Interview

The incentive had a statistically significant effect on household screener response rates (see Section 3.1). Table 35 shows the response rates for subsequent stages of data collection, including the Phase 2 screener and the extended interview. Because of the small sample sizes at these later stages, this section of the report focuses on descriptive statistics. The combined adult Phase 2 screener completion rate and youth extended completion rate was lower for sampled persons in households that completed the long version of the household screener than the short version (59.4 percent versus 62.9 percent); combining the adult Phase 2 and youth interview rates creates a metric characterizing the response to the initial approach seeking an interview with all persons sampled at Phase 1. The person-level completion rate was also lower for the households getting the longer version of the screener (86.1 percent versus 87.5 percent); the person-level completion rate

combines the adult extended completion rate for all adults sampled at Phase 2 with the youth interview completion rate; this combination creates a metric characterizing the response in terms of the ultimate data collection goal of fully completed questionnaires.

The incentive variable also seemed to have a positive effect on response rates to the Phase 2 screener and extended interview.[3] The $10 household incentive produced the highest response rate at the next stage of data collection (the Phase 2 screener for adults, the extended interview for youth) with a response rate at this stage of 64.0 percent (versus 59.7 percent for the $5 incentive group and 59.1 percent for the no incentive group). Given the small sample sizes, these findings are not statistically significant, but they suggest that the benefits of the screener incentive may have carried over to the next phase of data collection.

The incentive had no apparent effect on the proportion of sampled persons providing biospecimens. For example, 51.2 percent of those in the no incentive and $10 incentive groups provided urine samples; the corresponding figure is 53.2 percent for the $5 incentive. These differences across incentive groups are not statistically significant.

3.4 Agreement between the Household and Phase 2 Screener Classifications

The analysis also examined how often tobacco use as reported by the household informant in the screener agreed with tobacco use reported by the sample adult himself or herself in the Phase 2 screener. In many cases (57.2 percent of the time), these were the same person.

Table 36 shows the overall rates of agreement regarding whether the sample person was a tobacco user, by the experimental variables and by whether the screener data were self-reported or provided by a proxy. The longer screener produced a somewhat higher rate of agreement than the short screener (92.3 percent classified the same way in the household and Phase 2 screeners for the long screener versus 88.0 percent for the short screener). This difference was marginally significant (Rao-Scott χ^2=3.70, df=1, p<.06). The rate of agreement was also higher when the same person provided the data in both screeners (92.1 versus 87.3 percent agreement); this difference was significant (Rao-Scott χ^2=7.70, df=1, p<.01).

[3] Regardless of the household incentive amount, all sampled adults and youth received the standard incentive amount for completing the Phase 2 screener/adult interview ($35) and the youth interview ($25).

The kappa statistics, displayed in the left panel of the table, follow the same pattern as the agreement rates, with higher kappas when the household screener data were self-reports and when the longer screener was used. Kappa adjusts the agreement statistics for chance levels of agreement.

Appendix A
Detailed Tables

Table 1 PATH Field Test Household Screener CARI Recordings Reviewed - Counts by Household Informant and Household Characteristics

Characteristic	Number reviewed
Total	547
Household Informant Characteristic	
Age	
18 through 24 years old	56
25 through 44 years old	210
45 through 64 years old	200
65 years and older	81
Sex	
Female	293
Male	254
Household Characteristic	
Number of Household Members	
1	112
2	186
3	98
4+	151
Number of Adults in Household	
1	141
2	293
3	72
4+	41
Number of Youth in Household	
0	353
1	84
2	74
3	27
4+	9

Table 2 PATH Field Test Biospecimen Consent Rates by Type of Specimen by Respondent Characteristics

	Completed Interviews (n)	Consent to Provide Specimens (%)					Consent to Genetic Testing [2]
		Buccal	Urine	Blood	All Three	Any Specimen	
Overall	**480**	74.0	59.6	46.9	44.8	74.8	95.5
Tobacco Status							
Tobacco User	236	80.9	70.3	54.7	52.1	82.6	95.4
Non-user	244	67.2	49.2	39.3	37.7	67.2	95.7
Drug Use							
Alcohol	345	75.9	62.3	47.0	44.6	76.8	95.8
Marijuana	138	83.3	68.1	47.8	47.1	84.1	97.4
Cocaine/Crack	18	88.9	83.3	66.7	66.7	88.9	100.0
Stimulants	9	88.9	88.9	66.7	66.7	88.9	100.0
Heroin and Other Drugs	14	92.9	92.9	78.6	78.6	92.9	100.0
No Drug Use	118	66.9	52.5	47.5	46.6	67.8	93.8
Age							
18-24	160	80.6	62.5	50.6	48.1	80.6	95.3
25-44	173	72.3	59.0	44.5	42.8	72.8	95.2
45-64	116	70.7	60.3	48.3	45.7	73.3	95.3
65+	31	61.3	45.2	35.5	35.5	61.3	100.0
Education[1]							
< HS degree	65	84.6	72.3	63.1	60.0	86.2	96.4
HS degree/< 4 yr college degree	303	73.6	59.4	45.9	43.9	74.3	96.4
4 yr college degree +	110	69.1	52.7	40.0	38.2	70.0	92.2
Gender							
Female	228	76.8	62.3	50.4	48.2	77.6	96.6
Male	252	71.4	57.1	43.7	41.7	72.2	94.5
Race							
Black	146	73.3	61.0	42.5	41.8	73.3	92.5
White	303	74.6	60.4	49.5	46.9	75.9	96.5
Other	31	71.0	45.2	41.9	38.7	71.0	100.0
Ethnicity							
Hispanic	61	77.0	55.7	45.9	42.6	77.0	97.9
Non-Hispanic	419	73.5	60.1	47.0	45.1	74.5	95.2

Note: Table covers respondents who completed the adult interview.

[1] The sum of counts for this category does not equal the overall total due to missing values.

[2] Denominator is the number of subjects who consented to any biospecimen collection

Table 3 PATH Field Test Blood Tube Collection Rates (as percent of blood collected) by Respondent Characteristics

	Blood Consent Given (n)	Blood Collected (n)	Blood Tube											
			BT01 (Plasma-Citrate)		RD01 (Serum 1)		RD02 (Serum 2)		LV01 (Plasma-EDTA 1)		LV02 (Plasma-EDTA 2)		PX01 (PaxGene)	
			n	%	n	%	n	%	n	%	n	%	n	%
Overall	225	187	180	96.3	177	94.7	175	93.6	171	91.4	171	91.4	171	91.4
Tobacco Status														
Tobacco user	129	106	101	95.3	99	93.4	97	91.5	96	90.6	96	90.6	97	91.5
Non-user	96	81	79	97.5	78	96.3	78	96.3	75	92.6	75	92.6	74	91.4
Age														
18-24	81	64	62	96.9	62	96.9	60	93.8	60	93.8	58	90.6	58	90.6
25-44	77	63	61	96.8	61	96.8	61	96.8	60	95.2	60	95.2	60	95.2
45-64	56	51	49	96.1	47	92.2	47	92.2	45	88.2	47	92.2	47	92.2
65+	11	9	8	88.9	7	77.8	7	77.8	6	66.7	6	66.7	6	66.7
Education[1]														
< HS degree	41	33	32	97.0	31	93.9	31	93.9	28	84.9	29	87.9	28	84.9
HS degree/< 4 yr college degree	139	112	107	95.5	107	95.5	105	93.8	105	93.8	103	92.0	105	93.8
4 yr college degree +	44	41	40	97.6	38	92.7	38	92.7	37	90.2	38	92.7	37	90.2
Gender														
Female	115	95	91	95.8	91	95.8	90	94.7	88	92.6	88	92.6	89	93.7
Male	110	92	89	96.7	86	93.5	85	92.4	83	90.2	83	90.2	82	89.1

Note: Table covers respondents who completed the adult interview and from whom blood was successfully collected.

[1] The sum of counts for this category does not equal the overall total due to missing values.

Table 4 PATH Field Test Amount of Urine Collected by Respondent Characteristics (as percent of urine collections)

	Completed Interviews (n)	Urine Consent Given		Urine Collected		Mass Urine Collected			
						< 42.7 grams		>= 42.7 grams	
		Count	%	Count	%	Count	%	Count	%
Overall	480	286	59.6	234	81.8	48	20.5	186	79.5
Tobacco Status									
Tobacco User	236	166	70.3	137	82.5	29	21.2	108	78.8
Non-user	244	120	49.2	97	80.8	19	19.6	78	80.4
Age									
18-24	160	100	62.5	80	80.0	18	22.5	62	77.5
25-44	173	102	59.0	83	81.4	11	13.3	72	86.8
45-64	116	70	60.3	60	85.7	13	21.7	47	78.3
65+	31	14	45.2	11	78.6	6	54.6	5	45.5
Education[1]									
< HS degree	65	47	72.3	38	80.9	8	21.1	30	79.0
HS degree/< 4 yr college degree	303	180	59.4	145	80.6	31	21.4	114	78.6
4 yr college degree +	110	58	52.7	50	86.2	9	18.0	41	82.0
Gender									
Female	228	142	62.3	115	81.0	31	27.0	84	73.0
Male	252	144	57.1	119	82.6	17	14.3	102	85.7

Note: Table covers respondents who completed the adult interview.

[1] The sum of counts for this category does not equal the overall total due to missing values.

Table 5 PATH Field Test Buccal Cell Collection Rates (as percent of consent given) by Respondent Characteristics

	Buccal Consent Given	Buccal Specimen Collected	
	n	n	%
Overall	355	349	98.3
Tobacco Status			
Tobacco User	191	187	97.9
Non-user	164	162	98.8
Age			
18-24	129	126	97.7
25-44	125	123	98.4
45-64	82	81	98.8
65+	19	19	100.0
Education[1]			
< HS degree	55	54	98.2
HS degree/< 4 yr college degree	223	219	98.2
4 yr college degree +	76	75	98.7
Gender			
Female	175	172	98.3
Male	180	177	98.3

Note: Table covers respondents who completed the adult interview and consented to buccal cell collection.
[1] The sum of counts for this category does not equal the overall total due to missing values.

Table 6 PATH Field Test Hooper-Holmes Biospecimen Collection (as percent of consented) by Specimen Type and by Respondent Characteristics

	Consented for Blood Only					Consented for Blood and Urine						
	n Consented	Visit Conducted		Blood Collected		n Consented	Visit Conducted		Blood Collected		Urine Collected	
		n	%	n	%		n	%	n	%	n	%
Overall	3	3	100.0	2	66.7	222	213	96.0	185	83.3	185	83.3
Tobacco Status												
Tobacco User	2	2	100.0	1	50.0	127	125	98.4	105	82.7	106	83.5
Non-user	1	1	100.0	1	100.0	95	88	92.6	80	84.2	79	83.2
Age												
18-24	1	1	100.0			80	75	93.8	64	80.0	64	80.0
25-44	1	1	100.0	1	100.0	76	74	97.4	62	81.6	62	81.6
45-64	1	1	100.0	1	100.0	55	53	96.4	50	90.9	49	89.1
65+						11	11	100.0	9	81.8	10	90.9
Education[1]												
< HS degree	0					41	40	97.6	33	80.5	32	78.1
HS degree/< 4 yr college degree	3	3	100.0	2	66.7	136	129	94.9	110	80.9	111	81.6
4 yr college degree +	0					44	43	97.7	41	93.2	41	93.2
Gender												
Female	2	2	100.0	1	50.0	113	107	94.7	94	83.2	92	81.4
Male	1	1	100.0	1	100.0	109	106	97.3	91	83.5	93	85.3

Note: Table panel covers respondents consenting to biospecimen collection requiring Hooper Holmes visit - blood consent only.

Note: Table panel covers respondents consenting to biospecimen collection requiring Hooper Holmes visit - blood and urine consent.

[1] The sum of counts for this category does not equal the overall total due to missing values.

Table 7 PATH Field Test Time (days) from Blood Consent to Time of Blood Collection, by PSU

	Blood Consent (n)	Blood Collected (n)	Days from Consent to Blood Collected			
			Min	Max	Median	Mean
Overall	225	187	3.0	33.0	7.0	8.1
PSU						
301	17	14	4.0	13.0	7.0	7.0
302	9	6	8.0	10.0	9.5	9.2
303	18	16	4.0	15.0	8.0	8.3
304	24	17	4.0	17.0	8.0	8.7
305	10	10	4.0	17.0	6.0	7.4
306	24	23	4.0	23.0	6.0	7.2
307	21	21	4.0	15.0	6.0	7.7
308	17	14	4.0	33.0	7.5	10.9
309	21	18	4.0	15.0	8.5	8.9
310	10	6	4.0	10.0	5.5	6.3
311	24	15	3.0	12.0	8.5	8.1
312	9	7	5.0	18.0	7.0	8.1
313	5	5	5.0	13.0	7.0	8.2
314	10	10	4.0	10.0	6.5	6.8
315	6	5	6.0	15.0	10.0	10.0

Note: Table covers consented and completed blood collection

Table 8 PATH Field Test Specimen Time in Transit (hours) by Shipment Type by Packing Day Segment

Shipment Type/Packing Day Segment	n	Minimum	Maximum	Median	Mean
Blood + Urine					
Weekday <6pm	111	15.5	145.1	24.0	40.3
Weekday >= 6pm	20	14.7	138.3	36.8	47.0
Saturday	16	45.2	141.1	83.8	92.6
Sunday	12	38.8	56.3	47.4	46.5
Blood Only					
Weekday <6pm	5	19.4	119.3	69.4	59.6
Weekday >= 6pm	1	84.9	84.9	84.9	84.9
Saturday	1	49.9	49.9	49.9	49.9
Sunday	0				
Buccal + Urine					
Weekday <6pm	25	17.7	142.8	21.5	49.2
Weekday >= 6pm	12	35.7	113.8	37.9	43.9
Saturday	14	40.0	70.6	64.9	58.5
Sunday	6	38.7	43.9	41.4	41.5
Buccal Only					
Weekday <6pm	155	14.7	164.2	21.5	33.8
Weekday >= 6pm	70	14.1	160.3	38.6	47.6
Saturday	46	42.5	119.5	64.6	65.6
Sunday	15	35.8	89.5	41.7	48.1
Urine Only					
Weekday <6pm	7	19.7	69.8	42.9	41.0
Weekday >= 6pm	1	39.7	39.7	39.7	39.7
Saturday	0				
Sunday	1	46.4	46.4	46.4	46.4
Interviewer Shipments					
Weekday <6pm	187	14.7	164.2	21.8	36.2
Weekday >= 6pm	83	14.1	160.3	38.3	47.0
Saturday	60	40.0	119.5	64.7	63.9
Sunday	22	35.8	89.5	41.8	46.2
Phlebotomist Shipments					
Weekday <6pm	116	15.5	145.1	24.0	41.1
Weekday >= 6pm	21	14.7	138.3	37.1	48.8
Saturday	17	45.2	141.1	73.5	90.1
Sunday	12	38.8	56.3	47.4	46.5

Note: Table covers specimen shipments received at repository and for which collection date/time is available

Table 9 PATH Field Test Time (hours) From Specimen Receipt to Start of Processing at the Repository, by Specimen Type

Specimen Type	n Received	n Processed	Time in Hours			
			Minimum	Maximum	Median	Mean
Blue Top 1	186	185	1.0	6.4	4.0	4.1
Lavender 1	180	176	0.8	5.9	3.5	3.3
Lavender 2	179	176	0.8	5.9	3.5	3.3
Red Top 1	183	182	1.0	6.2	4.1	4.0
Red Top 2	181	180	1.0	6.2	4.1	4.0
Urine	246	242	1.0	8.0	3.1	3.4

Note: Table covers specimens processed at the repository following receipt.

Table 10 PATH Field Test Number of Aliquots Created per Parent, by Specimen Processing Protocol and Vial Size

Protocol	Collected (n)	Aliquot Type	Vial Size	Number of aliquots per parent				
				Minimum	Maximum	Median	Mean	Expected
Plasma (EDTA)	179	Buffy Coat	2	1.0	2.0	2.0	2.0	2
		Plasma-EDTA	0.75	4.0	10.0	7.0	7.2	10
			2	1.0	6.0	6.0	5.7	6
		RBCs	10	2.0	2.0	2.0	2.0	2
Plasma (citrate)	185	Plasma-Citrate	2	1.0	1.0	1.0	1.0	1
		RBCs+WBCs	2	1.0	1.0	1.0	1.0	1
Serum	185	Serum	0.75	1.0	5.0	3.0	3.1	5
			2	1.0	8.0	7.0	6.7	8
Urine1 >= 42.7g	197	Urine	2	3.0	14.0	14.0	13.7	14
			6	2.0	3.0	3.0	3.0	3
			10	1.0	2.0	2.0	2.0	2
Urine2 <42.7g >=33.8g	14	Urine	2	8.0	10.0	8.0	8.6	14
			6	2.0	3.0	3.0	2.9	3
			10	2.0	2.0	2.0	2.0	2
Urine3 <33.8g	37	Urine	2	1.0	12.0	8.0	7.1	14
			6	1.0	3.0	3.0	2.2	3
			10	1.0	2.0	2.0	1.8	2

Note: Table covers all specimens processed at repository.
Note: Expected column indicates the expected number of aliquots to be created as defined by the processing protocols

Table 12 PATH Field Test Household Screener Timings (minutes), by Version and Household Size

	n	Minimum	Maximum	Median	Mean	Std Dev
Long version	568	2.4	69.4	12.2	14.0	8.3
HH Size						
1	115	2.4	44.2	6.6	8.0	5.6
2	168	4.3	39.5	10.8	12.4	6.0
3	103	5.3	38.3	13.3	14.4	5.4
4	105	4.1	69.4	15.6	17.0	8.9
5+	77	7.6	59.4	19.1	22.0	10.1
Short version	598	2.8	77.0	11.3	12.7	7.5
HH Size						
1	123	2.8	18.0	6.3	7.1	2.9
2	199	2.8	43.7	9.3	11.2	6.3
3	110	5.8	34.9	13.5	14.3	5.6
4	100	5.6	77.0	14.3	16.5	10.3
5+	66	8.8	39.2	18.0	18.8	5.9

Note: Table covers all completed household screeners, excluding those with missing data and extreme outliers resulting from in-field computer problems.

Table 13 PATH Field Test Adult Interview Timings (minutes), by Current Tobacco Use Status by Instrument Section

	All Respondents (n = 461)					Current Tobacco Users (n = 227)					Current Non-Users (n = 234)				
	Minimum	Maximum	Median	Mean	Std Dev	Minimum	Maximum	Median	Mean	Std Dev	Minimum	Maximum	Median	Mean	Std Dev
Phase 2	2.0	19.7	5.9	6.4	2.9	2.3	17.9	6.4	7.0	3.0	2.0	19.7	5.4	5.9	2.7
Section															
Intro Demographics	0.4	7.9	1.4	1.7	1.1	0.6	7.6	1.5	1.8	1.1	0.4	7.9	1.3	1.6	1.0
Tobacco Use	0.8	15.9	4.4	4.8	2.2	1.4	15.9	4.8	5.2	2.4	0.8	11.8	3.9	4.3	2.0
Extended (Excluding Contact)*	14.2	150.3	38.0	42.0	19.7	23.1	150.3	48.1	52.6	19.6	14.2	88.5	27.8	31.7	13.4
Section															
Cigarette	0.7	28.7	5.4	5.8	4.7	0.7	28.7	7.8	8.2	4.5	0.7	16.9	1.7	2.6	2.4
E-cigarette	0.7	27.2	1.5	2.5	3.1	0.7	27.2	1.7	2.6	3.3	0.9	9.1	1.2	1.9	1.9
Cigar	0.9	23.0	3.6	4.8	3.8	1.1	23.0	4.5	5.7	4.0	0.9	20.8	2.6	3.4	2.9
Pipe	0.5	10.7	1.2	1.8	1.8	0.5	10.7	1.3	1.8	1.7	0.6	10.4	1.2	1.8	1.9
Hookah	0.7	10.0	1.7	2.2	1.4	0.8	10.0	2.1	2.6	1.7	0.7	5.9	1.5	1.9	1.0
Smokeless Tobacco	0.5	16.3	1.2	2.2	2.9	0.5	16.3	1.3	2.5	3.2	0.6	8.1	1.0	1.5	1.5
Dissolvable Tobacco	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Polyuse	0.2	6.2	1.4	1.7	1.1	0.2	6.2	1.4	1.7	1.1	.	.	.	.	.
Nicotine Dependence	0.1	22.3	3.9	4.6	3.3	1.5	22.3	4.2	5.3	3.0	0.1	12.8	0.3	1.6	2.5
Packaging and Health Warnings	0.1	9.6	0.9	1.1	0.8	0.2	4.3	1.4	1.5	0.7	0.1	9.6	0.6	0.8	0.7
Product Regulation	1.6	34.9	3.7	4.4	2.7	1.6	34.9	3.9	4.6	3.1	1.6	21.9	3.6	4.3	2.4
Media Use	0.6	8.7	1.5	1.7	0.7	0.6	5.3	1.4	1.6	0.6	0.6	8.7	1.6	1.8	0.8
Second Hand Smoke Exposure	0.5	11.9	1.5	1.7	0.9	0.5	11.9	1.6	1.8	1.1	0.5	5.0	1.5	1.7	0.8
Peer and Family Influences	0.1	4.2	0.6	0.6	0.4	0.2	4.2	0.7	0.8	0.4	0.1	2.2	0.4	0.5	0.3
Health Effects Outcome	2.3	113.4	12.5	14.1	8.0	2.3	113.4	12.7	14.7	9.0	4.4	55.1	12.1	13.5	6.7
Industry Advertising/Promo	0.4	7.2	1.4	1.6	0.8	0.6	5.3	1.6	1.8	0.8	0.4	7.2	1.2	1.4	0.8
Additional Demographics	1.0	23.3	2.8	3.2	1.8	1.5	15.0	3.1	3.5	1.7	1.0	23.3	2.6	3.0	1.8
Entire Adult Instrument*	16.5	154.1	43.5	48.4	21.7	26.2	154.1	54.6	59.5	21.6	16.5	101.0	34.3	37.6	15.5
Contact	2.6	14.8	7.6	7.9	2.6	2.6	14.8	7.4	7.8	2.6	3.6	14.3	7.8	8.0	2.6
Consent and Tutorial	2.8	52.6	10.5	12.0	6.3	2.8	52.6	10.7	12.4	6.9	3.5	36.4	10.2	11.7	5.7
Total Interview Process*	22.2	163.2	58.8	63.7	24.6	34.3	163.2	69.6	74.9	24.3	22.2	126.5	48.3	52.8	19.5

Note: Table covers all completed adult interviews, excluding those with missing data and extreme outliers resulting from in-field computer problems.

*Because each respondent may not be routed through each section, the summary means will not necessarily equal the sum of the means of the various sections.

Table 14 PATH Field Test Phase 2 Screener Timings (minutes), by Ever/Never Tobacco Use, and Number of Products Ever Used

	n	Minimum	Maximum	Median	Mean	Std Dev
All Never-Users	43	2.2	10.6	4.4	5.3	2.4
All Ever Users	418	2.0	19.7	6.0	6.6	2.9
# Products						
1	91	2.0	14.1	5.5	5.9	2.6
2	82	2.3	12.6	5.2	5.8	2.6
3	63	2.1	14.8	5.5	6.3	3.0
4+	182	3.3	19.7	6.8	7.3	3.0

Note: Table covers all completed Phase 2 screeners, excluding those with missing data and extreme outliers resulting from in-field computer problems.
Never user is any respondent who has never used any tobacco product.
Ever user is any respondent who has ever used any tobacco product.

Table 15 PATH Field Test Phase 2 Screener Timings (minutes), by Ever/ Never Tobacco Use by Age

	n	Minimum	Maximum	Median	Mean	Std Dev
All Never-Users	43	2.2	10.6	4.4	5.3	2.4
Age						
18-24	20	2.2	10.4	3.8	4.4	2.1
25-44	11	3.3	10.6	4.4	5.0	2.3
45-64	9	4.2	10.2	7.2	7.4	2.0
65+	3	4.3	9.3	5.5	6.3	2.6
All Ever Users	418	2.0	19.7	6.0	6.6	2.9
Age						
18-24	131	2.1	16.7	5.0	5.6	2.4
25-44	157	2.0	14.6	5.5	6.1	2.5
45-64	104	2.7	19.7	7.3	7.8	3.1
65+	26	4.0	17.9	7.8	8.9	3.8

Note: Table covers all completed Phase 2 screeners, excluding those with missing data and extreme outliers resulting from in-field computer problems.
Never user is any respondent who has never used any tobacco product.
Ever user is any respondent who has ever used any tobacco product.

Table 16 PATH Field Test Entire Instrument Timings (minutes), by Current Tobacco Use Status by Age, Education, and Gender

	All Respondents						Current Tobacco Users						Current Non-Users					
	n	Minimum	Maximum	Median	Mean	Std Dev	n	Minimum	Maximum	Median	Mean	Std Dev	n	Minimum	Maximum	Median	Mean	Std Dev
Overall	461	16.7	154.3	48.1	52.0	21.8	227	26.4	154.3	58.1	62.9	21.4	234	16.7	107.2	37.9	41.4	16.1
Age																		
18-24	151	18.4	154.3	44.1	46.4	19.1	65	29.6	154.3	53.8	56.6	20.1	86	18.4	84.7	35.6	38.7	14.1
25-44	168	16.7	126.2	46.2	49.8	20.6	91	26.4	126.2	56.7	61.1	19.2	77	16.7	101.6	33.8	36.6	12.9
45-64	113	24.7	130.6	54.8	58.9	22.7	58	34.1	130.6	65.2	68.1	22.4	55	24.7	107.2	43.4	49.2	18.8
65+	29	29.6	132.2	64.8	66.5	25.0	13	54.9	132.2	80.2	84.7	21.3	16	29.6	93.7	47.5	51.7	16.9
Education[1]																		
< HS degree	104	18.4	127.5	60.1	61.7	21.3	67	29.6	127.5	64.5	67.4	18.9	37	18.4	107.2	44.6	51.4	21.9
HS degree/< 4 yr college degree	248	16.7	154.3	47.2	51.5	22.2	132	26.4	154.3	55.2	61.4	23.1	116	16.7	101.6	37.4	40.1	14.5
4 yr college degree +	107	21.8	93.7	39.1	43.2	16.6	26	30.5	93.1	53.6	57.9	17.5	81	21.8	93.7	34.5	38.5	13.3
Gender																		
Female	219	18.0	130.6	45.8	49.2	20.3	102	26.4	130.6	58.3	61.3	19.8	117	18.0	88.1	35.2	38.7	13.8
Male	242	16.7	154.3	51.0	54.5	22.8	125	30.5	154.3	58.0	64.3	22.6	117	16.7	107.2	40.1	44.0	17.8

Note: Table covers all completed adult interviews, excluding those with missing data and extreme outliers resulting from in-field computer problems.

[1] The sum of counts for this category do not sum to the overall total due to missing values.

Table 17 PATH Field Test Entire Instrument and Nicotine Dependence Section Timings (minutes) for Current Tobacco Users by Number of Products Currently Used

	n	Minimum	Maximum	Median	Mean	Std Dev
Entire Instrument						
All Users	227	26.4	154.3	58.1	62.9	21.4
# Products						
1	189	26.4	154.3	56.4	61.7	21.1
2	26	29.6	122.0	64.3	67.1	24.9
3	8	51.3	87.4	69.2	69.8	11.0
4+	4	47.1	112.9	74.1	77.1	27.2
Nicotine Dependence Section						
All Users	227	1.5	22.3	4.2	5.3	3.0
# Products						
1	189	1.9	22.3	4.1	5.2	3.0
2	26	1.5	12.5	4.7	5.1	2.4
3	8	2.3	7.6	5.6	5.4	1.8
4+	4	2.4	17.5	6.1	8.0	7.0

Note: Table covers all completed adult interviews with tobacco users, excluding those with missing data and extreme outliers resulting from in-field computer problems.

Table 18 PATH Field Test Youth Interview Timings (minutes), by Current Tobacco Use by Instrument Section

	All Respondents (n = 123)					Current Tobacco Users (n = 9)					Current Non-Users (n = 114)				
	Minimum	Maximum	Median	Mean	Std Dev	Minimum	Maximum	Median	Mean	Std Dev	Minimum	Maximum	Median	Mean	Std Dev
Entire Extended	11.0	73.1	30.6	32.2	10.0	30.5	73.1	47.5	49.7	13.2	11.0	56.9	29.8	30.9	8.3
Section															
Intro Demographics	0.4	5.1	0.9	1.1	0.7	0.4	1.8	1.2	1.1	0.5	0.4	5.1	0.9	1.1	0.7
Cigarette	0.9	14.4	2.0	2.4	1.6	1.5	14.4	4.8	5.7	3.7	0.9	6.4	2.0	2.1	0.9
E-cigarette	0.1	10.1	2.0	2.1	1.4	1.9	10.1	3.5	4.4	2.8	0.1	6.9	1.9	1.9	1.1
Cigar	0.4	18.5	3.3	3.8	2.3	2.7	18.5	8.0	7.8	4.8	0.4	9.5	3.2	3.4	1.6
Pipe	0.2	6.8	1.5	1.7	0.9	1.2	2.9	1.3	1.6	0.6	0.2	6.8	1.6	1.7	0.9
Hookah	0.2	3.8	1.3	1.4	0.9	0.8	3.8	1.8	2.0	1.1	0.2	3.7	1.2	1.3	0.8
Smokeless Tobacco	0.1	5.8	1.5	1.5	0.9	0.2	5.8	1.2	1.7	1.7	0.1	4.6	1.6	1.5	0.9
Dissolvable Tobacco	0.1	3.5	0.4	0.4	0.4	0.1	1.9	0.3	0.5	0.6	0.1	3.5	0.4	0.4	0.4
Bidi/Kretek	0.1	6.7	0.4	0.5	0.7	0.2	2.7	0.4	0.9	0.9	0.1	6.7	0.4	0.5	0.7
First Tobacco Product	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	.	.	.	.	.
Reasons to Use	1.1	8.3	2.9	3.2	1.3	2.5	7.6	4.0	4.1	1.6	1.1	8.3	2.9	3.1	1.2
Dependence	0.8	2.4	1.4	1.4	0.4	0.8	2.4	1.7	1.6	0.5	0.8	1.6	1.4	1.3	0.3
Cessation	0.2	1.7	0.7	0.8	0.5	0.2	1.7	0.7	0.8	0.5	.	.	.	.	.
Modified Risk Products	0.2	1.3	0.4	0.4	0.2	0.2	0.7	0.5	0.5	0.2	0.2	1.3	0.4	0.4	0.2
Secondhand Smoke	0.3	3.7	1.2	1.3	0.6	0.6	2.4	1.3	1.3	0.5	0.3	3.7	1.2	1.3	0.6
Packaging/Health Warnings	0.1	3.8	0.7	0.8	0.8	0.7	3.8	2.1	2.4	1.0	0.1	2.3	0.6	0.7	0.6
Marketing	0.4	2.8	0.8	0.9	0.4	0.7	2.2	0.8	1.0	0.5	0.4	2.8	0.8	0.9	0.4
Media Use	0.6	8.1	2.8	3.0	1.2	2.1	4.2	2.9	3.0	0.7	0.6	8.1	2.8	3.0	1.2
Accessibility	0.0	0.7	0.2	0.2	0.1	0.1	0.3	0.2	0.2	0.1	0.0	0.7	0.2	0.2	0.1
Psychosocial	0.5	5.4	1.8	2.0	0.8	1.2	2.9	1.5	2.0	0.7	0.5	5.4	1.8	2.0	0.8
Substance Use	0.5	7.0	1.9	2.3	1.3	1.6	7.0	3.8	3.9	1.5	0.5	6.7	1.8	2.2	1.2
Health Outcomes	0.1	1.3	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.0	0.1	1.3	0.2	0.2	0.1
Ad Exposure	0.3	4.0	0.8	0.9	0.5	0.5	2.2	1.0	1.1	0.6	0.3	4.0	0.8	0.9	0.5
Demographics	0.7	5.0	1.9	2.0	0.7	1.1	2.6	2.1	1.9	0.6	0.7	5.0	1.9	2.0	0.7

Note: Table covers all completed youth interviews, excluding those with missing data and extreme outliers resulting from in-field computer problems.
Because each respondent may not be routed through each section, the entire extended mean will not necessarily equal the sum of the means of sections.

Table 19 PATH Field Test Youth Interview Timings - Entire Instrument (minutes), by Current Tobacco Use and Age

	All Respondents						Current Tobacco Users						Current Non-Users					
	n	Minimum	Maximum	Median	Mean	Std Dev	n	Minimum	Maximum	Median	Mean	Std Dev	n	Minimum	Maximum	Median	Mean	Std Dev
Overall	123	11.0	73.1	30.6	32.2	10.0	9	30.5	73.1	47.5	49.7	13.2	114	11.0	56.9	29.8	30.9	8.4
Age																		
12-14	59	11.0	53.7	29.9	31.7	9.3	1	48.6	48.6	48.6	48.6	.	58	11.0	53.7	29.8	31.4	9.1
15-17	64	13.4	73.1	30.8	32.7	10.7	8	30.5	73.1	47.4	49.8	14.1	56	13.4	56.9	29.8	30.3	7.5

Note: Table covers all completed youth interviews, excluding those with missing data and extreme outliers resulting from in-field computer problems.

Table 20 PATH Field Test Youth Interview Timings - Entire Instrument (minutes) for Current Tobacco Users by Number of Products Currently Used

	n	Minimum	Maximum	Median	Mean	Std Dev
All Users	**9**	**30.5**	**73.1**	**47.5**	**49.7**	**13.2**
# Products						
1	7	30.5	73.1	47.3	50.1	15.2
2	1	47.5	47.5	47.5	47.5	
3	1	48.6	48.6	48.6	48.6	
4+	0					

Note: Table covers all completed youth interviews, excluding those with missing data and extreme outliers resulting from in-field computer problems.

Table21 PATH Field Test Parent Interview Timings (minutes)

	n	Minimum	Maximum	Median	Mean	Std Dev
All interviews	122	3.0	18.2	7.1	7.8	2.5

Note: Table covers all completed parent interviews, excluding those with missing data and extreme outliers resulting from in-field computer problems.

Table 22 PATH Field Test Number of Hours per Case by Case Characteristics

Characteristics	n	Minimum	Maximum	Median	Mean
Overall	1166	**0.0**	9.9	0.6	1.1
Number of Sampled Persons					
0	541	0.0	4.2	0.2	0.2
1	475	0.2	6.9	1.4	1.5
2	125	0.9	6.9	3.0	3.0
3	22	2.1	9.9	3.4	3.9
≥4	3	4.9	8.3	5.8	6.3
Combination of Sampled Persons					
0 Sampled Persons	541	0.0	4.2	0.2	0.2
1 Sampled Person					
1 adult, 0 youth	450	0.3	6.9	1.4	1.5
0 adults, 1 youth	25	0.2	2.1	1.2	1.2
2 Sampled Persons					
2 adults, 0 youth	69	1.0	6.9	3.4	3.4
1 adult, 1 youth	46	0.9	5.0	2.5	2.6
0 adults, 2 youth	10	1.5	2.5	2.1	2.0
3+ Sampled Persons					
2 adults, ≥1 youth	14	2.3	8.3	4.9	4.7
1 adult, ≥2 youth	11	2.1	9.9	2.8	3.5
0 adults, ≥3 youth	0				

Note: Case is defined as a dwelling unit with a completed household screener. Hours cover those logged by the field interviewer's computer whenever the interviewer was interacting with persons at the dwelling unit.
For combinations of sampled persons, sampled refers to the sampling from the Phase 1 screener.

Table 23 PATH Field Test Number of Hours per Case by Numbers of Interviews per Case and Specimen Collection Outcomes

	n	Minimum	Maximum	Median	Mean
Overall	1166	0.0	9.9	0.6	1.1
Number of Extended Interviews Completed					
0	718	0.0	6.9	0.3	0.4
1	333	0.2	4.6	1.9	1.9
2	100	1.6	6.9	3.4	3.3
3	13	2.3	9.9	4.3	4.8
4	2	5.8	8.3	7.0	7.0
5	0				
6	0				
>6	0				
Combination of Extended Interviews Completed					
0 Completed	718	0.0	6.9	0.3	0.4
1 Completed					
1 adult, 0 youth	295	0.7	4.6	1.9	2.0
0 adult, 1 youth	38	0.2	2.6	1.5	1.5
2 Completed					
2 adults, 0 youth	54	1.6	6.9	3.8	3.7
1 adult, 1 youth	32	2.1	5.0	3.1	3.2
0 adult, 2 youth	14	1.7	2.9	2.3	2.3
3+ Completed					
2 adults, ≥1 youth	9	3.9	8.3	5.2	5.4
1 adult, ≥2 youth	6	2.3	9.9	4.1	4.7
0 adults, ≥3 youth	0				
Number of Adults Providing Buccal Cells and/or Urine Sample to Interviewer					
0	869	0.0	4.4	0.3	0.6
1	245	1.0	9.9	2.2	2.4
2	52	2.3	8.3	4.0	4.2

Note: Case is defined as a dwelling unit with a completed household screener. Hours cover those logged by the field interviewer's computer whenever the interviewer was interacting with persons at the dwelling unit.

Times include parent interview(s) when also completed.

Table 24 PATH Field Test Unweighted Response Rate by Instrument and Various Characteristics

	Eligible* (n)	Complete (n)	Unweighted Response Rate (%)
Household Screener			
All Household Screeners	2944	1170	39.7
Long Version	1400	562	40.1
Short Version	1544	608	39.4
Phase 2 Screener **			
All Phase 2 Screeners	1152	698	60.6
Tobacco Status			
Sampled in Household Screener as User	579	382	66.0
Sampled in Household Screener as Non-user	573	316	55.1
Adult Interview			
All Adult Interviews	501	480	95.8
Tobacco Status			
Sampled in Phase 2 Screener as User	390	378	96.9
Sampled in Phase 2 Screener as Non-User	111	102	91.9
Parent Interview			
All Parent Interviews	195	128	65.6
Youth Age Group			
12-14 Year Olds (age from Household Screener)	92	62	67.4
15-17 Year Olds (age from Household Screener)	103	66	64.1
Youth Interview			
All Youth Interviews	195	122	62.6
Youth Age Group			
12-14 Year Olds (age from Household Screener)	92	58	63.0
15-17 Year Olds (age from Household Screener)	103	64	62.1

* Eligible:

Household screener: all confirmed/presumed residential addresses

Phase 2 Screener: all adults sampled from household screener

Adult interview: all adults sampled from Phase 2 screener, excluding age ineligibles from Phase 2

Parent interview: parents of all youths sampled from household screener, excluding youth age ineligibles from parent interview

Youth interview: all youths sampled from household screener, excluding youth age ineligibles from parent interview

** Includes Field Test supplemental sample of Phase 1 non-users for response rate calculation purposes

Table 25 PATH Field Test Interview Sources of Non-Response by Instrument and Various Characteristics

	Eligible* (n)	Non-response (n)	Reasons for Non-Response (percent)					
			Refusal	Maximum Contacts	No Contact	Language Barrier	Physical Barrier	All Other
Household Screener								
All Household Screeners	2944	1774	59.7	21.7	6.2	10.5	1.1	0.8
Long Version	1400	838	61.7	21.0	6.0	10.0	0.7	0.6
Short Version	1544	936	57.9	22.3	6.4	10.9	1.5	1.0
Phase 2 Screener **								
All Phase 2 Screeners	1152	454	50.2	6.2	20.3	8.1	5.3	9.9
Tobacco Status								
Sampled in Household Screener as User	579	197	52.3	6.6	23.4	6.6	1.5	9.6
Sampled in Household Screener as Non-user	573	257	48.6	5.8	17.9	9.3	8.2	10.1
Adult Interview								
All Adult Interviews	501	21	4.8	0.0	4.8	0.0	4.8	85.7
Tobacco Status								
Sampled in Phase 2 Screener as User	390	12	8.3	0.0	0.0	0.0	8.3	83.3
Sampled in Phase 2 Screener as Non-User	111	9	0.0	0.0	11.1	0.0	0.0	88.9
Parent Interview								
All Parent Interviews	195	67	13.4	1.5	4.5	3.0	0.0	77.6
Youth Age Group								
12-14 Year Olds (age from Household Screener)	92	30	10.0	0.0	3.3	3.3	0.0	83.3
15-17 Year Olds (age from Household Screener)	103	37	16.2	2.7	5.4	2.7	0.0	73.0
Youth Interview								
All Youth Interviews	195	73	20.5	1.4	6.8	2.7	0.0	68.5
Youth Age Group								
12-14 Year Olds (age from Household Screener)	92	34	23.5	0.0	2.9	2.9	0.0	70.6
15-17 Year Olds (age from Household Screener)	103	39	17.9	2.6	10.3	2.6	0.0	66.7

* Eligible:
Household screener: all confirmed/presumed residential addresses
Phase 2 screener: all adults sampled from household screener
Adult interview: all adults sampled from Phase 2 screener, excluding age ineligibles from Phase 2
Parent interview: parents of all youths sampled from household screener, excluding youth age ineligibles from parent interview
Youth interview: all youths sampled from household screener, excluding youth age ineligibles from parent interview
** Includes Field Test supplemental sample of Phase 1 non-users for response rate calculation purposes

Refusal includes those who refused to participate in an interview.
Maximum Contacts: at least one contact was made but the effort was not successful before reaching the maximum of six in-person attempts.
No contact: similar to Maximum Contacts, except that, after six attempts, no contact was actually achieved with the targeted person.
Language barrier: the targeted person did not speak English (the only language in which the field test was conducted).
Physical barrier: the interviewer was unable to gain physical access to the dwelling unit, due to restricted access situations such as gated communities or controlled-access buildings.
All other: miscellaneous reasons which include persons staying in a seasonal home, or final break offs; for the field test, this category also included cases that were still in process at the end of the field period and did not qualify for the other categories.

Table 26 PATH Field Test Unweighted Housing Unit Eligibility Rate, Weighted Household Response Rate, and Proportion of Screener Responding Households with Eligible Youth

	Field Test Result (%)	Design Assumption (%)
Housing Unit Eligibility Rate	89.8	88.6
Household Response Rate	40.1	90.0
Proportion of Screener Responding Households with Youths		
9 to 11 Years Old	10.9	9.3
12 to 17 Years Old	16.2	16.0

Note: field test not designed to be predictive of response rate

Table 27 PATH Field Test Unweighted Distribution of Enumerated Adults by Sampling Domain, Based on Information Provided by Household Informant

Sampling Domain[a]	Field Test Result		Design Assumption (TUS-CPS 2006-2007) (%)	NSDUH 2010 (%)	NHIS 2010 (%)
	Count	Proportion (%)			
Black - 18 to 24 Years Old, Tobacco User	37	1.7	0.3	0.6	0.4
Black - 18 to 24 Years Old, Tobacco Non-User	74	3.3	1.7	1.3	1.6
Black - 25+ Years Old, Tobacco User	113	5.1	2.1	4.3	2.6
Black - 25+ Years Old, Tobacco Non-User	133	6.0	8.4	5.9	7.6
Non-black - 18 to 24 Years Old, Tobacco User	160	7.2	2.2	3.1	2.5
Non-Black - 18 to 24 Years Old, Tobacco Non-User	251	11.4	7.9	7.4	8.0
Non-Black - 25+ Years Old, Tobacco User	503	22.8	16.3	20.9	17.6
Non-Black - 25+ Years Old, Non-tobacco User	939	42.5	61.0	56.4	59.7

Note: The table covers all individuals as enumerated in Phase 1 household screener.

[a] Assignment to sampling domain is based on information from the Phase 1 household screener.

Table28 PATH Field Test Rate of Misclassification - Household Informant Report of Household Member Tobacco Use

Age Group[a]	False Positive[b]			False Negative[c]		
	Sample Size	Field Test Rate (%)	Design Assumption (%)	Sample Size	Field Test Rate (%)	Design Assumption (%)
18 to 24 Years Old						
All Persons Regardless of Screener Version	98	4.1%	5%	81	32.1%	5%
All Persons with Short Screener	43	0.0%	-	43	37.2%	-
All Persons with Long Screener	55	7.3%	-	38	26.3%	-
Non-Household Informants	48	6.3%	-	55	36.4%	-
25 Years or Older						
All Persons Regardless of Screener Version	276	14.1%	5%	155	9.7%	2%
All Persons with Short Screener	130	6.9%	-	85	14.1%	-
All Persons with Long Screener	146	20.5%	-	70	4.3%	-
Non-Household Informants	94	14.9%	-	59	3.4%	-

Note: table addresses Phase 1 tobacco use classification as implemented for sampling purposes. For sampling purposes only, members who could not be classified with certainty were considered to be users.

[a] Age group as reported in Phase 2 screener

[b] False positive is defined where the Phase 1 screener classified person as tobacco user, while the Phase 2 screener self-report classified as non-user

[c] False negative is defined where the Phase 1 screener classified person as tobacco non-user, while the Phase 2 screener self-report classified as user

Table 29 PATH Field Test Address Frame Coverage Rates, Housing Unit Eligibility Rates, and Weighted Household Response Rates by PSU

PSU	Sampled Housing Units	Screener Responding Households	Housing Unit Count From Census 2010	Address Frame Coverage Rate (%)	Housing Unit Eligibility Rate (%)	Household Screener Response Rate (%)
301	210	96	84,872	100.2	88.9	42.7
302	210	56	3,445,076	97.6	96.2	40.1
303	210	53	555,932	98.4	91.9	31.2
304	212	58	12,787	88.3	81.1	58.5
305	216	97	2,180,359	95.9	93.7	40.1
306	212	46	417,862	104.9	83.3	45.4
307	211	43	135,160	100.1	88.5	50.4
308	212	94	612,004	101.7	96.7	33.7
309	213	98	296,685	94.4	75.3	41.4
310	211	34	398,510	94.6	91.2	36.3
311	210	95	35,511	95.5	82.6	58.3
312	216	20	419,974	96.8	91.6	30.1
313	296	28	835,127	93.6	93.4	24.3
314	210	46	268,426	98.4	92.8	32.5
315	210	99	407,998	98.1	97.2	49.0

Table 30 PATH Field Test Weighted Phase 2 Screener Response Rate and Extended Response Rates Among Eligible Adults by PSU

PSU	Adults Sampled for Phase 2 Screener	Respondents to Phase 2 Screener	Weighted Phase 2 Screener Response Rate (%)	Adults Sampled for Extended Interview	Respondents to Extended Interview	Weighted Extended Interview Response Rate (%)
301	90	53	59.0	45	43	94.9
302	62	41	61.0	32	32	100.0
303	58	43	74.7	33	33	100.0
304	89	56	62.6	39	38	91.3
305	72	44	60.1	27	24	93.9
306	67	53	81.2	45	43	93.3
307	72	51	69.2	42	39	88.9
308	59	33	55.0	25	25	100.0
309	62	47	76.9	42	40	89.7
310	57	33	61.0	27	24	77.6
311	99	73	73.0	53	51	97.7
312	49	31	56.1	28	28	100.0
313	57	20	30.4	18	15	88.5
314	51	31	57.3	22	22	100.0
315	64	34	50.9	23	23	100.0

Table 31 PATH Field Test Weighted Extended Interview Response Rate for Youth Ages 12-17

PSU	Sampled Youth	Youth Respondent	Weighted Youth Response Rate (%)
301	10	6	59.6
302	25	14	50.0
303	13	10	78.6
304	24	16	67.2
305	12	7	56.7
306	9	7	77.0
307	18	17	95.0
308	4	1	25.0
309	3	3	100
310	11	3	27.6
311	11	9	84.9
312	10	6	59.9
313	12	8	70.5
314	17	8	45.1
315	16	8	50.1

Table 32 PATH Field Test Weighted Proportions of Youth Ages 9-11 (Shadow Youth) Whose Parents/Guardians Agreed to be Contacted During Follow-up Waves

PSU	Sampled Shadow Youth	Shadow Youth Whose Parents/Guardians Agreed to be Contacted for the Follow-up Waves	Weighted Proportion of Shadow Youth that Can Be Contacted for Follow-up Waves (%)
301	6	5	84.5
302	10	7	69.8
303	5	4	78.0
304	15	13	89.8
305	7	6	85.5
306	7	6	84.3
307	5	2	40.0
308	3	1	33.3
309	4	2	50.6
310	15	8	53.9
311	12	9	77.3
312	7	2	29.6
313	9	5	57.2
314	10	8	79.2
315	9	7	76.4

Table 33 PATH Field Test Screener Response Rates, By Incentive Amount and Screener Version

Experimental Condition	Occupancy		Household Screener		Enumeration	
	Sampled Addresses (n)	Residential Occupancy Rate (%)	Residential Dwelling Units (n)	Household Screener Response Rate (%)	Adults Enumerated (n)	Adults Screened (%)
No Incentive	1,212	89.9	1,090	36.7	815	97.3
Long Screener	697	90.1	628	35.7	384	94.3
Short Screener	515	89.7	462	38.1	431	100.0
$5 Incentive	1,025	90.9	932	40.3	750	95.3
Long Screener	513	89.7	460	40.2	365	91.0
Short Screener	512	92.2	472	40.5	385	99.5
$10 Incentive	1,022	89.3	913	43.0	803	94.2
Long Screener	510	88.4	451	44.1	411	88.8
Short Screener	512	90.2	462	42.2	392	99.7
Overall	3,259	90.1	2,935	39.8	2,368	95.5
Long Screener	1,720	89.5	1,539	39.5	1,160	91.3
Short Screener	1,539	90.7	1,396	40.3	1,206	99.8

Table 34 PATH Field Test Household-Level and Adult-Level Rates of Tobacco Use, By Incentive Amount and Screener Versio

Experimental Condition	Household-level Tobacco Use		Individual Adult Household Member Tobacco Use			
	Screened Households (n)	Proportion of Households with 1+ Users (%)	Enumerated Adults in Screened Households (n)	Proportion of Adults for Whom any Tobacco Use was Reported (%)	Proportion of Adults Reported to Smoke Cigarettes, Pipes or Cigars (%)	Proportion of Adults Reported to Use Any Other Tobacco Products (%)
No Incentive	386	49.5	793	37.6	28.9	8.7
Long Screener	178	53.4	362	40.6	30.9	9.7
Short Screener	208	46.2	431	35.0	27.1	7.9
$5 Incentive	372	50.0	717	37.2	29.4	7.8
Long Screener	179	53.6	332	41.3	32.2	9.7
Short Screener	193	46.6	385	33.8	27.0	6.8
$10 Incentive	381	48.0	754	34.7	25.9	8.9
Long Screener	186	51.6	365	38.1	28.5	9.6
Short Screener	195	44.6	391	31.7	23.5	8.2
Overall	1,138	49.1	2,264	36.5	28.0	8.5
Long Screener	543	52.9	1,059	39.9	30.5	9.4
Short Screener	596	45.8	1,205	33.5	25.9	7.6

Note: Table covers all completed household screeners.

Table 35 PATH Field Test Proportion of Households with Completed Extendeds, and Person-level Extended Completion Rate, by Household Screener Version, by Incentive Amount

Experimental Condition	Household-Level Extended Completion Rates			Completion Rate of Sampled Person(s) from Phase 1 Household Screener		Completion Rate of Final Sampled Person(s)	
	Households with at Least One Sampled Person (n)	Proportion of Households with at Least One Completed Extended (%)	Proportion of Households with Extended for Every Sampled Member (%)	Adults and Youths Sampled from Household Screener (n)	Adults Completing Phase 2 Screener/ Youths Completing Extended (%)	Adults Sampled from Phase 2 Screener/Youths Sampled from Household Screener (n)	Person-level Completion Rate, Excluding Non-sampled Adults at Phase 2 (%)
No Incentive	324	45.4	36.4	453	59.4	220	89.1
Long Screener	153	45.8	38.6	229	62.0	112	92.9
Short Screener	171	45.0	34.5	224	56.7	108	85.2
$5 Incentive	311	49.8	37.9	437	59.7	237	82.3
Long Screener	150	53.3	38.7	221	60.2	122	82.0
Short Screener	161	46.6	37.3	216	59.3	115	82.6
$10 Incentive	322	49.7	35.4	455	64.0	238	89.1
Long Screener	161	45.3	31.1	234	59.0	115	85.2
Short Screener	161	54.0	39.8	221	69.2	123	92.7
Overall	957	48.3	36.6	1345	61.0	695	86.8
Long Screener	464	48.1	36.0	684	60.4	349	86.5
Short Screener	493	48.5	37.1	661	61.7	346	87.0

Note: Table covers all sampled persons.

Table 36 PATH Field Test Agreement between the Household Screener and Phase 2 Screener on Tobacco Use, By Incentive Amount and Screener Version

	All Phase 2 Respondents	Proportion Classified the Same Way in Household Screener and Phase 2 Screener (Any Tobacco Use)			Kappas (Any Tobacco Use)		
		All Cases (n=664)	Self-Respondent in Household Screener (n=380)	Not Self-Respondent in Household Screener (n=284)	All Cases (n=664)	Self-Respondent in Household Screener (n=380)	Not Self-Respondent in Household Screener (n=284)
	(n)	(%)	(%)	(%)	(%)	(%)	(%)
No Incentive	221	91.4	95.0	87.4	0.825	0.896	0.743
Long Screener	108	95.4	98.4	91.3	0.904	0.968	0.812
Short Screener	113	87.6	91.2	84.2	0.750	0.806	0.667
$5 Incentive	218	90.8	92.6	87.1	0.814	0.845	0.761
Long Screener	106	90.6	91.0	90.0	0.809	0.816	0.795
Short Screener	112	91.1	94.1	84.4	0.815	0.874	0.732
$10 Incentive	225	88.0	88.8	87.2	0.761	0.775	0.742
Long Screener	99	90.9	94.6	86.4	0.818	0.886	0.724
Short Screener	126	85.7	84.3	87.9	0.717	0.689	0.751
Overall	664	90.1	92.1	87.2	0.800	0.837	0.748
Long Screener	313	92.3	94.6	89.2	0.845	0.886	0.782
Short Screener	351	88.0	89.7	85.6	0.760	0.789	0.720

Note: Table covers all Phase 2 screener respondents whose tobacco use could be classified with certainty in Phase 1 screener.