

Testing the Feasibility of Collecting Expenditure Data via Individual Mobile and Desktop Diaries: Preliminary Results

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Presentation Outline

- I. Individual Diaries Overview
- II. Preliminary Results – Sample Performance & Demographics
- III. Preliminary Results – Paradata
- IV. Preliminary Results – Reporting Characteristics
- V. Summary

I. INDIVIDUAL DIARIES OVERVIEW

Consumer Expenditure Diary (CED) Overview

- The CED currently uses 1 paper diary to collect household expenditures for a week (x2)
- Interviewers “place” the diary in-person and conduct up to two more visits
- The CED gathers more detailed expenditures than the Consumer Expenditure Interview Survey
- The Diary is divided into four sections:
 - ▶ Food Away From Home
 - ▶ Food for Home Consumption
 - ▶ Clothing, Shoes, Jewelry and Accessories
 - ▶ All Other Products, Services and Expenses

Individual Diary Test Analysis

- Research conducted to-date
 - ▶ Sample performance: screen-in and placement rates
 - ▶ Paradata: interviewer monitoring and logins
 - ▶ Reporting: section entries and interviewer-assisted entries

Individual Diary Test Analysis – Future Research

- Further Individual Diaries comparisons by mode:
 - ▶ Reporting quality: Actual date of diary entry vs. purchase date
 - ▶ Assess duplicate entries within a CU
- Test Versus Production:
 - ▶ CU-level response rates
 - ▶ Patterns of entries by category
 - ▶ Reporting quality: total recall, level of detail required, rounding
 - ▶ Contact attempt history: effort, reluctance

Individual Diaries Background

- The Individual Dairies Feasibility Test (IDFT) was designed to inform the operational and data quality aspects of collecting expenditures from household members using personal electronic diaries
- Since 2004, there have been various ongoing initiatives to test various forms of instruments to address the limitations of one paper diary for households with multiple members
- Two modes of electronic diaries were tested:
 - ▶ Mobile internet (via smartphone)
 - ▶ Desktop internet

Individual Diaries Logistics

- Data Collection Period – Aug - Dec 2014
- Starting Sample Addresses – 1,200 (Philadelphia, Chicago, & Los Angeles Regional Offices)
- Targeted sampling on area mobile usage, internet penetration, multi-person households, and English speaking households
- Developed separate online mobile & desktop applications
- Diary placement occurs once across the 2-week recording period
- Interviewers provide username and password to Respondents
- No individual-level outcome codes for Ind. Diary (final disposition)
- New materials
 - ▶ Mobile User Guide
 - ▶ Desktop User Guide
 - ▶ YouTube Online Tutorials

Individual Diaries Eligible Cases & Assignment Protocol

- Eligible Individual Diaries Cases
 - ▶ English only
 - ▶ No Multi-CU HHs or Replacement HHs
 - ▶ Home internet access via PC, tablet, Smartphone
- Assignment Protocol
 - ▶ If a household screens in as eligible, household members are offered modes sequentially
 - ▶ Mobile mode first and, if they do not have a Smartphone, then
 - ▶ Desktop mode, including tablet

Individual Diaries Monitoring Protocol

- Individual Diaries did not provide interviewers the opportunity to monitor if diary entry occurred during the recording period (due to technical/resource limitations)
- Interviewer Follow-up Calls
 - ▶ Reminder Calls (or visits if necessary) on Day 3 and Day 8 were encouraged for all participating households
 - ▶ Tailored follow-up calls were made to households that Census flagged for going three consecutive days without logging into the instrument

Individual Diaries Training and Materials

- Training conducted in-person for one day and was a departure from standard CE training protocols - focused more heavily on protocol changes
- Respondent Materials
 - ▶ Mobile and Desktop User Guides – Focus on logging in and entering expenses
 - ▶ Three YouTube Online Tutorials
 - ▶ Getting Started
 - ▶ What to Enter in the CE Diary
 - ▶ Entering and Editing Expenses

Individual Diaries Analyses

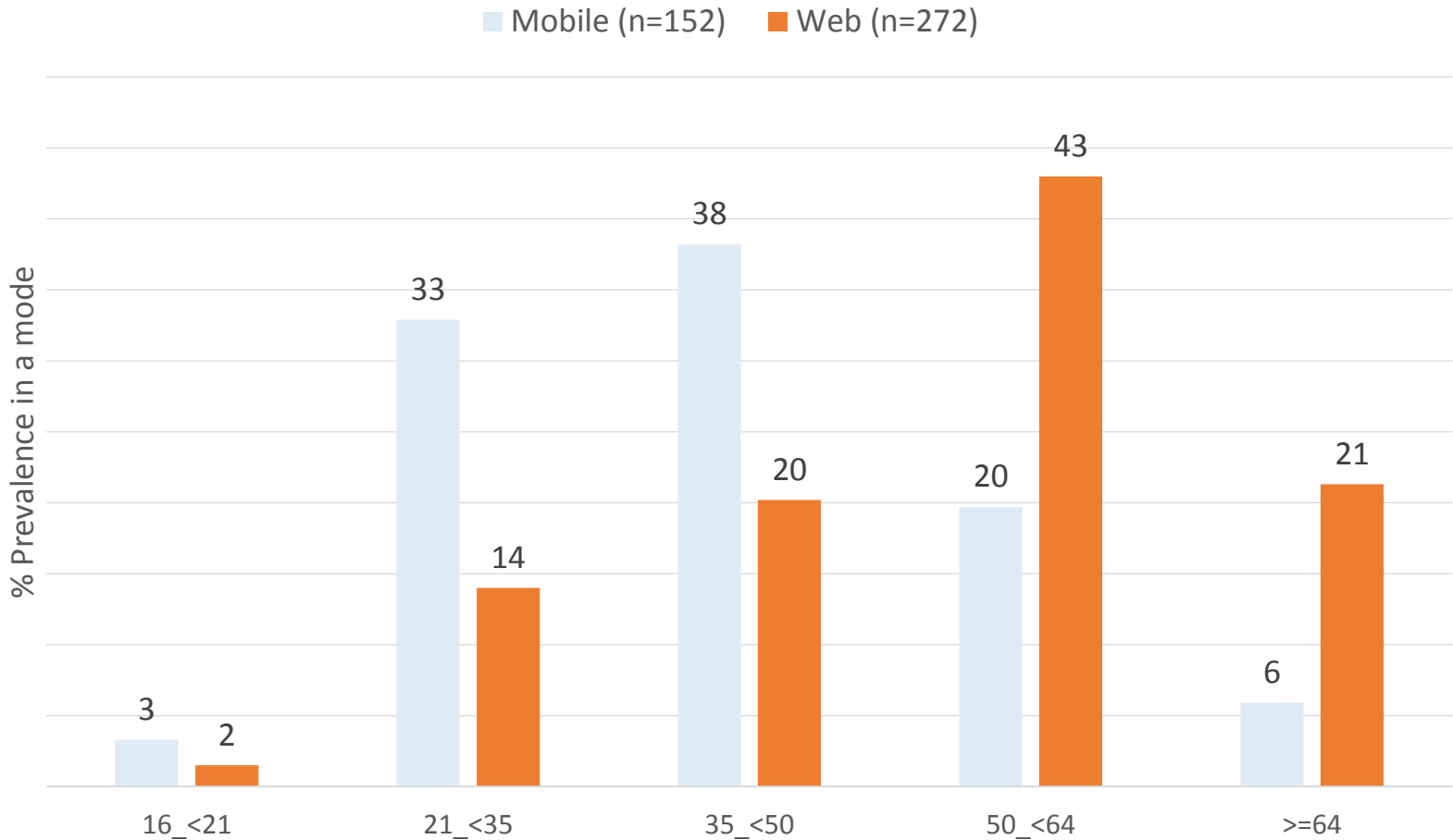
- Focus of the following analyses is on the comparison of test conditions to each other (mobile versus desktop) and their relative performance
- Comparisons to the control group (production sample, at the household level) are forthcoming

II. PRELIMINARY RESULTS – SAMPLE PERFORMANCE & DEMOGRAPHICS

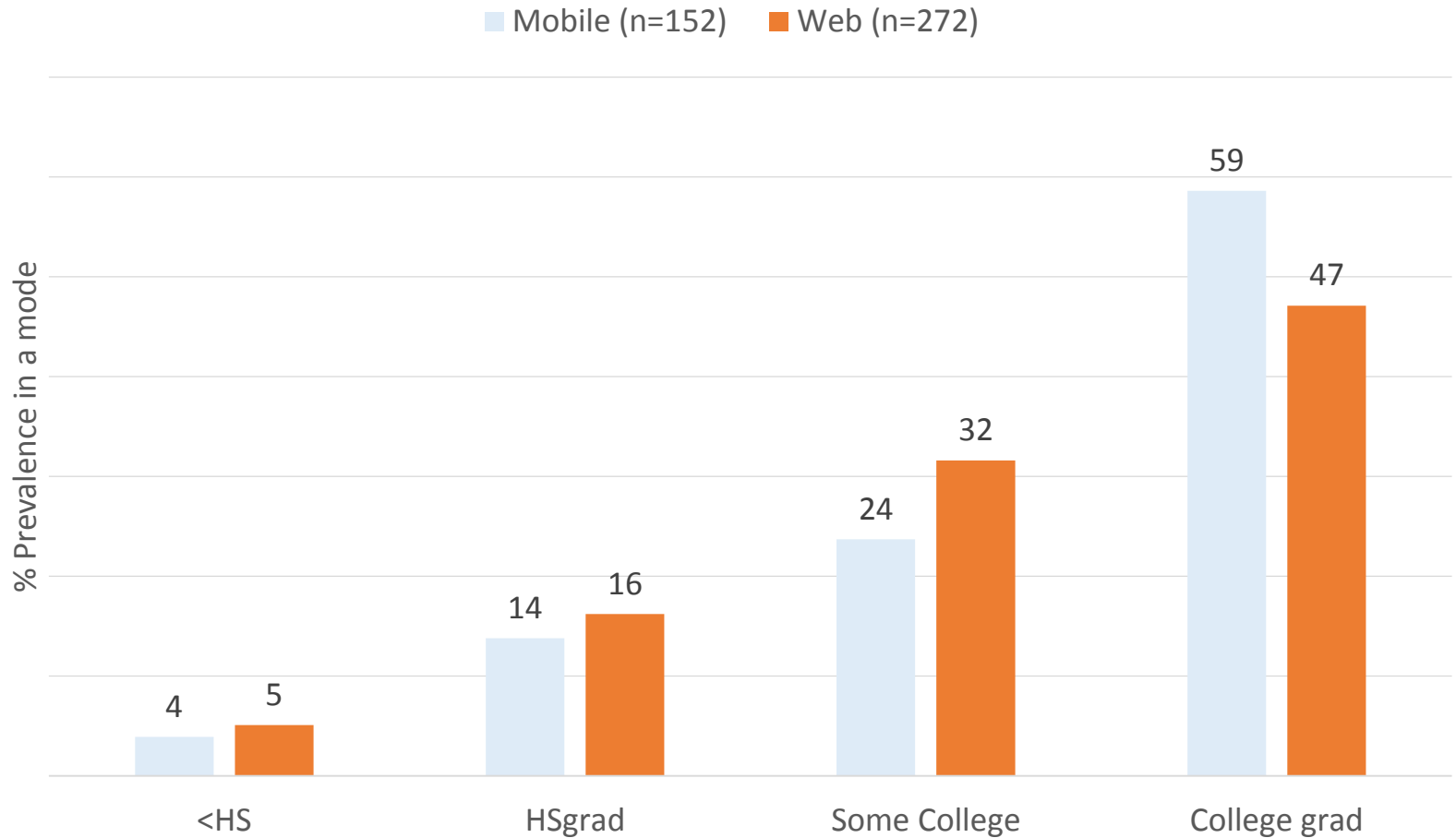
Characteristics of Sampled Households who Screened In

| Households with home internet access (n=471) | |
|---|------|
| Household size (% of n) | |
| DK/REF | 1.9 |
| Single persons | 20.0 |
| 2-3 persons | 32.9 |
| 4+ persons | 45.2 |
| No. e-diary age-eligible CU members | 2.1 |
| Combination of e-diaries assigned within CU (% of n) | |
| Mobile only | 49.0 |
| Desktop only | 38.6 |
| Mobile & Desktop | 9.1 |
| Neither | 1.3 |

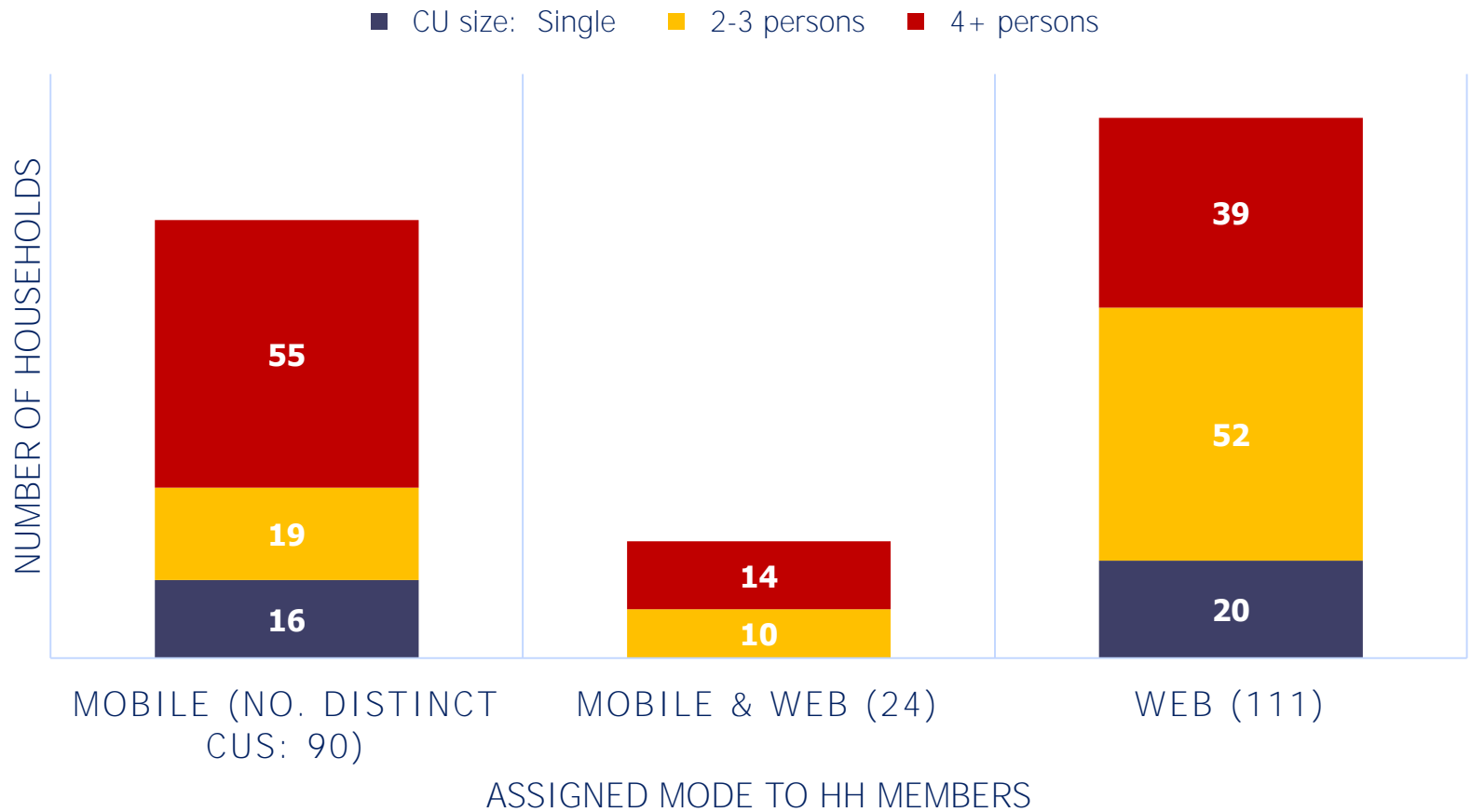
Assigned Diarists by Age



Assigned Diarists by Education Attainment



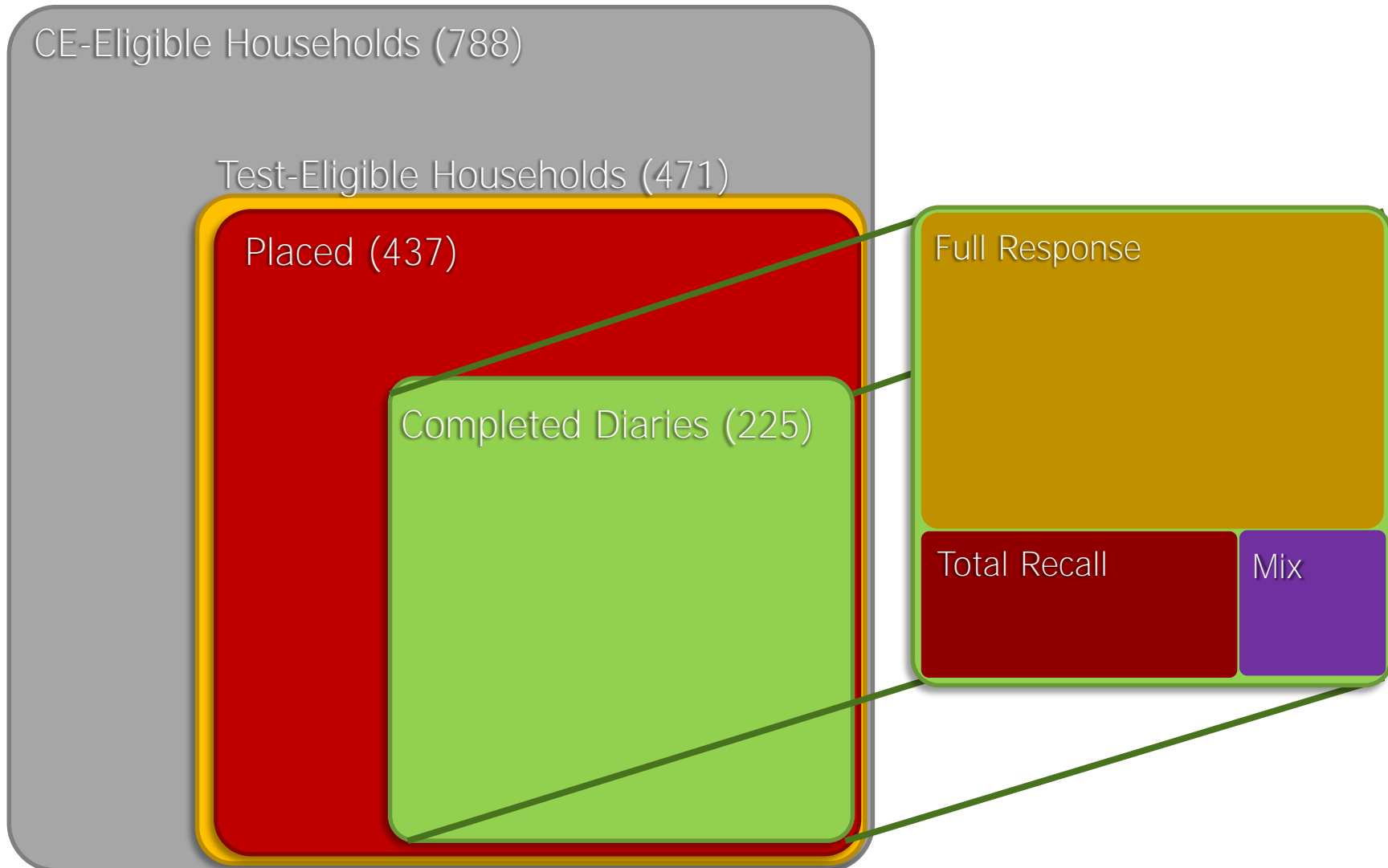
Assigned Diarists by Household Size



Individual Diaries Analysis Rate Assumptions

- Household-Level Screen-In, Diary Placement, and Completion
 - ▶ Only assesses household level diary placement and completion information recorded by the interviewer
 - ▶ Rates computed based on household outcome code, placement code, pick-up code, and internet screener
- Person-level placement and completion outcomes are classified by the outcome of the household to which they belong

Individual Diaries Visual Response



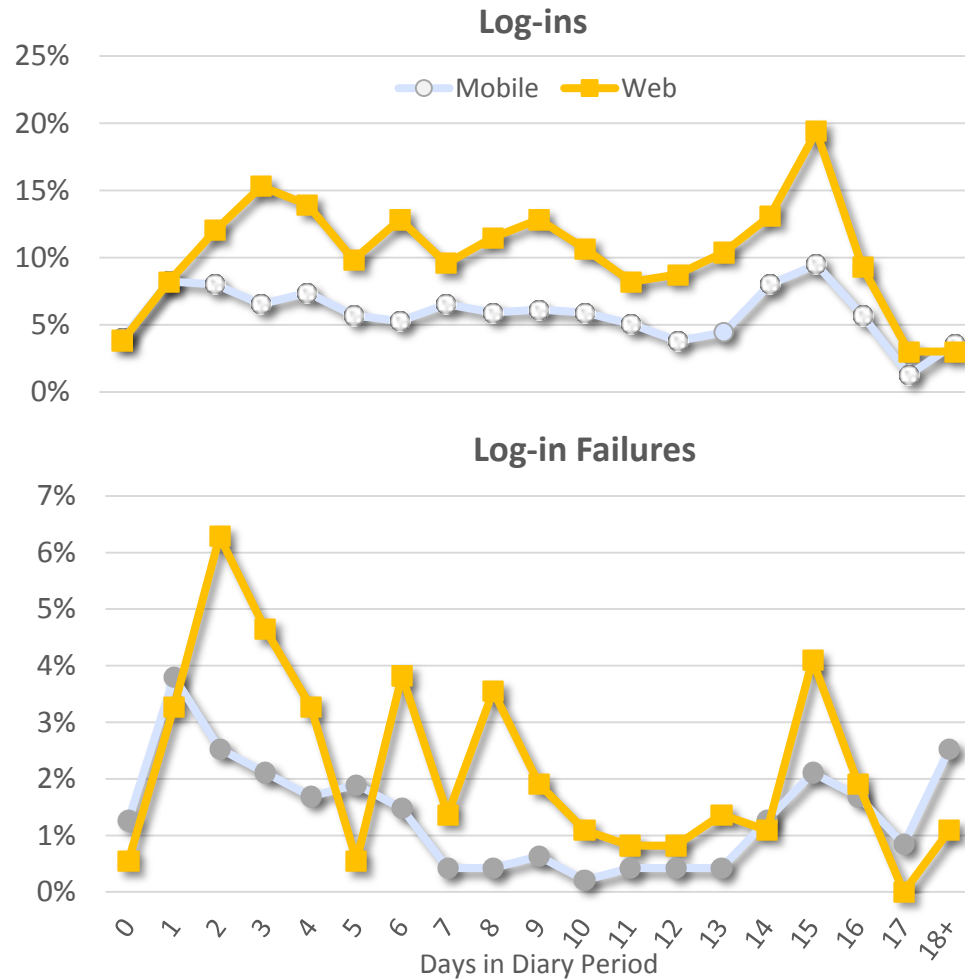
III. PRELIMINARY RESULTS – PARADATA

Log-In Monitoring Protocol and Interviewer Compliance

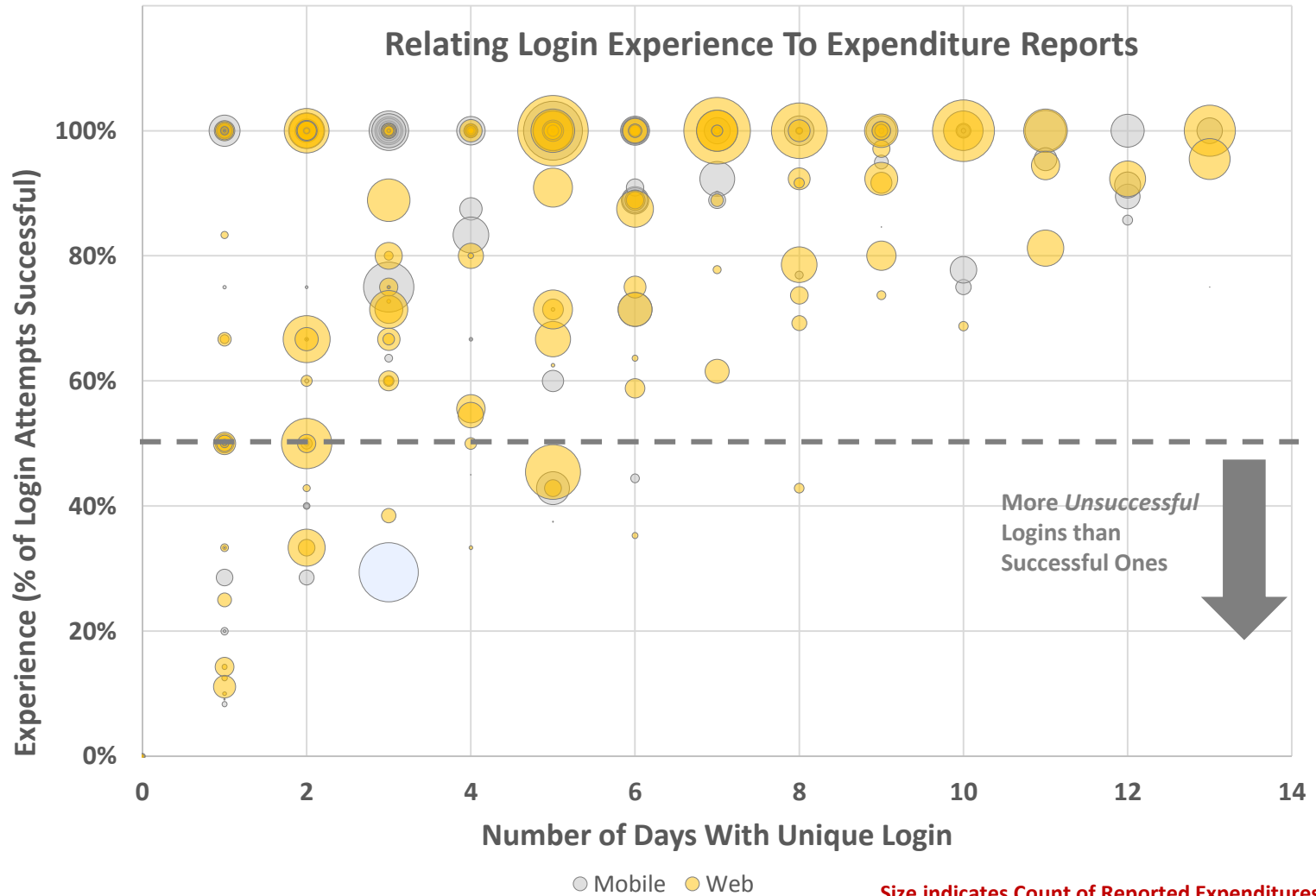
- Census monitored placed diaries to determine whether respondents were logging in
- If a respondent went three or more days without logging in, Census flagged the household and the assigned interviewer was notified to contact the household

| Regional Office (# of HHs) | Households flagged for follow-up | Percent with Follow-up (n=17) |
|-------------------------------|-------------------------------------|----------------------------------|
| Philadelphia RO (n=203) | 45 | 7% |
| Chicago RO (n=247) | 76 | 17% |
| Los Angeles RO (n=338) | 60 | 2% |
| Total | 181 | 9% |

Log-In and Log-In Failures by Mode

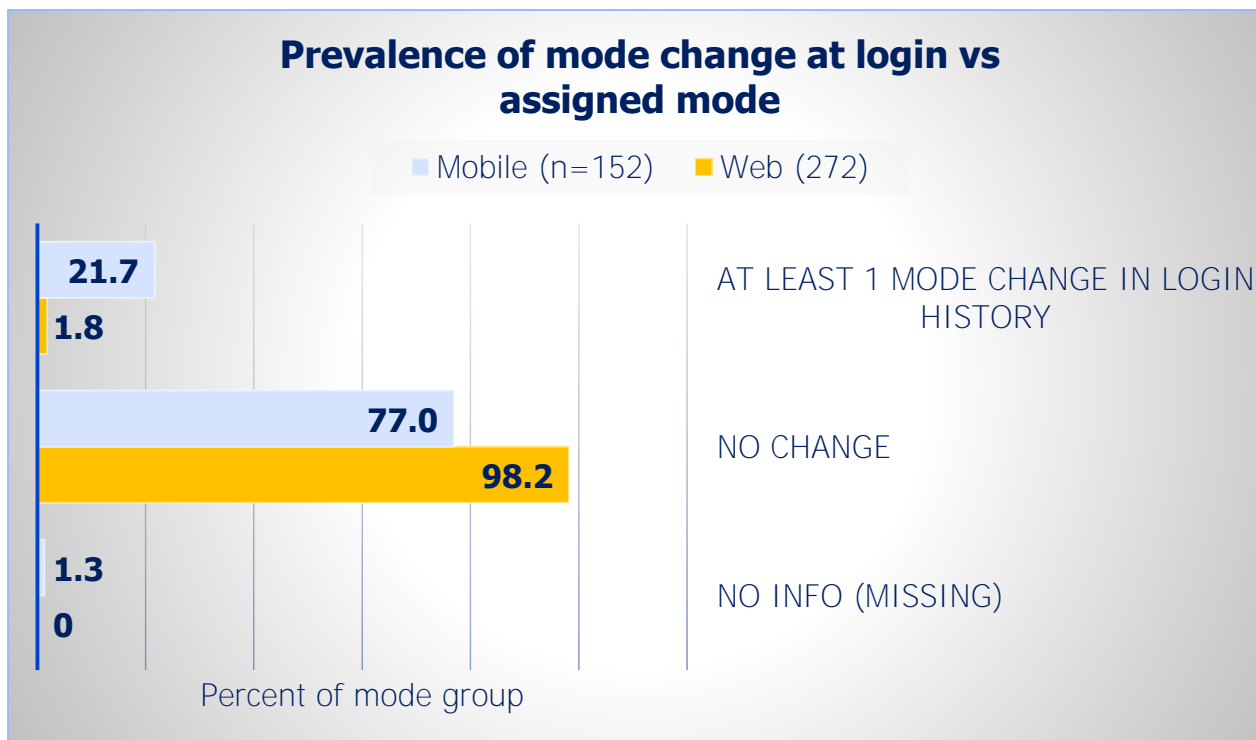


Log-In and Response



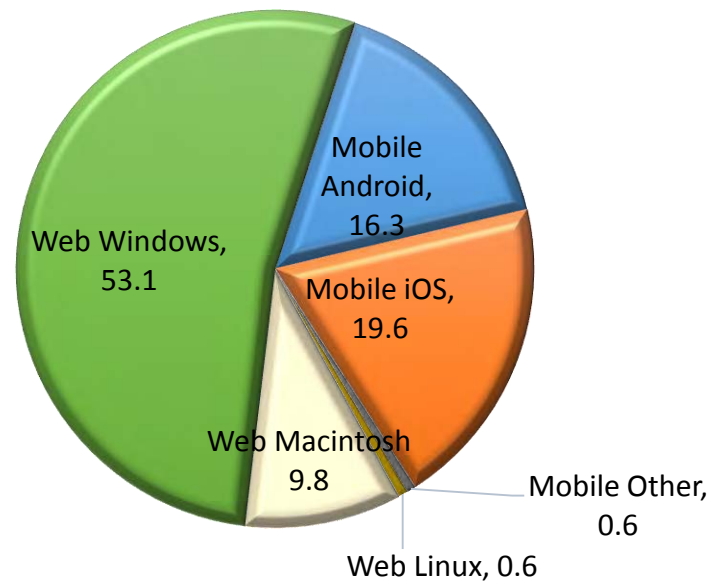
Assigned Mode versus Log-In Mode

- The tabulations on number of entries by mode were based on assigned mode.



Respondent Log-Ins by Operating System

Percent distribution of distinct persons who
logged in by operating system
(no. persons = 337)

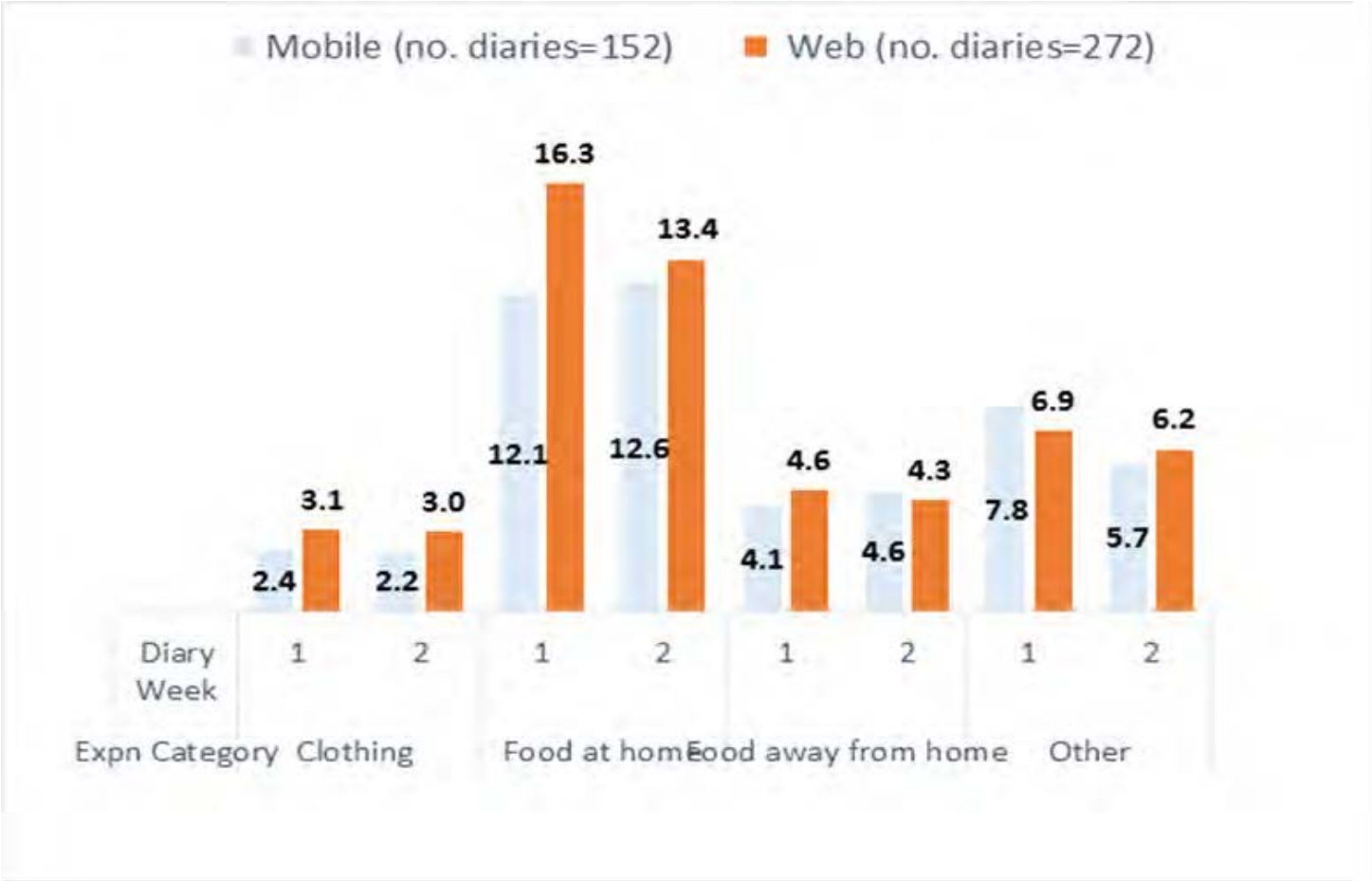


IV. PRELIMINARY RESULTS – REPORTING CHARACTERISTICS

Respondent-Level Diary Keeping by Mode

- Mobile diarists were younger and more likely to have completed college
- Desktop diarists were older and more likely to be from households with fewer persons
- For both mobile and desktop diarists the largest number of entries occur in Food for Home Consumption (FDB)
- Week to Week Entries
 - ▶ Among desktop diarists the largest decline in average number of entries occurred in FDB; however FDB was relatively steady for mobile diarists
 - ▶ Among mobile diarists, the largest week to week decline was in All Other Products, Services, and Expenses (OTH)
 - ▶ With the exceptions noted previously, there did not appear to be an association between diary week and the number of entries reported in other categories by mode

Entries per Respondent by Mode



V. SUMMARY

In Summary

- **Sample Performance:** Diary keeping information that is automatically generated allows for protocols to be updated more rapidly
- **Paradata:** Access to up-to-date paradata allows for on-demand interviewer intervention
- **Data Quality:** Electronic diaries allow for the collection of data from some diaries that are not successfully picked up
- **Reporting Characteristics:** Electronic diaries, specifically mobile diaries, do an effective job targeting groups generally underrepresented in CE data

Contact Information

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