Incorporating Technology in CE's New Design

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Outline

- Brief overview of current survey

- Overview of planned redesign

- Redesign guiding principles

- Major issues and decisions

  - ▶ Scope of new technology use
  - ▶ Role of the interviewer
  - ▶ Household Use of Technology
  - ▶ Resources and respondent help
  - ▶ Confidentiality and Technology

Current CE Design

Interview

- 5 waves of personal interviews
- 3 month recall
- Most expenses collected
- Estimates use: Large or recurring expenditures

Diary

- 2 one-week household paper diaries
- Contemporaneous recall
- All expenses collected
- Estimates use: Small, frequently purchased items

Consumer Expenditure Survey Estimates

Redesign Motivation

- Evidence of measurement error
- Changes in technology and spending behaviors
- Need for greater operational flexibility
- High level of burden – linked to data quality

Redesign Guiding Principles

- Keep it simple

- Make sure the design works for all respondents (e.g., have technology options)

- Increase flexibility in content, modes, and technology

- Meet data requirements

- Reduce measurement error

- Keep costs neutral

- Have no negative effect on response rates
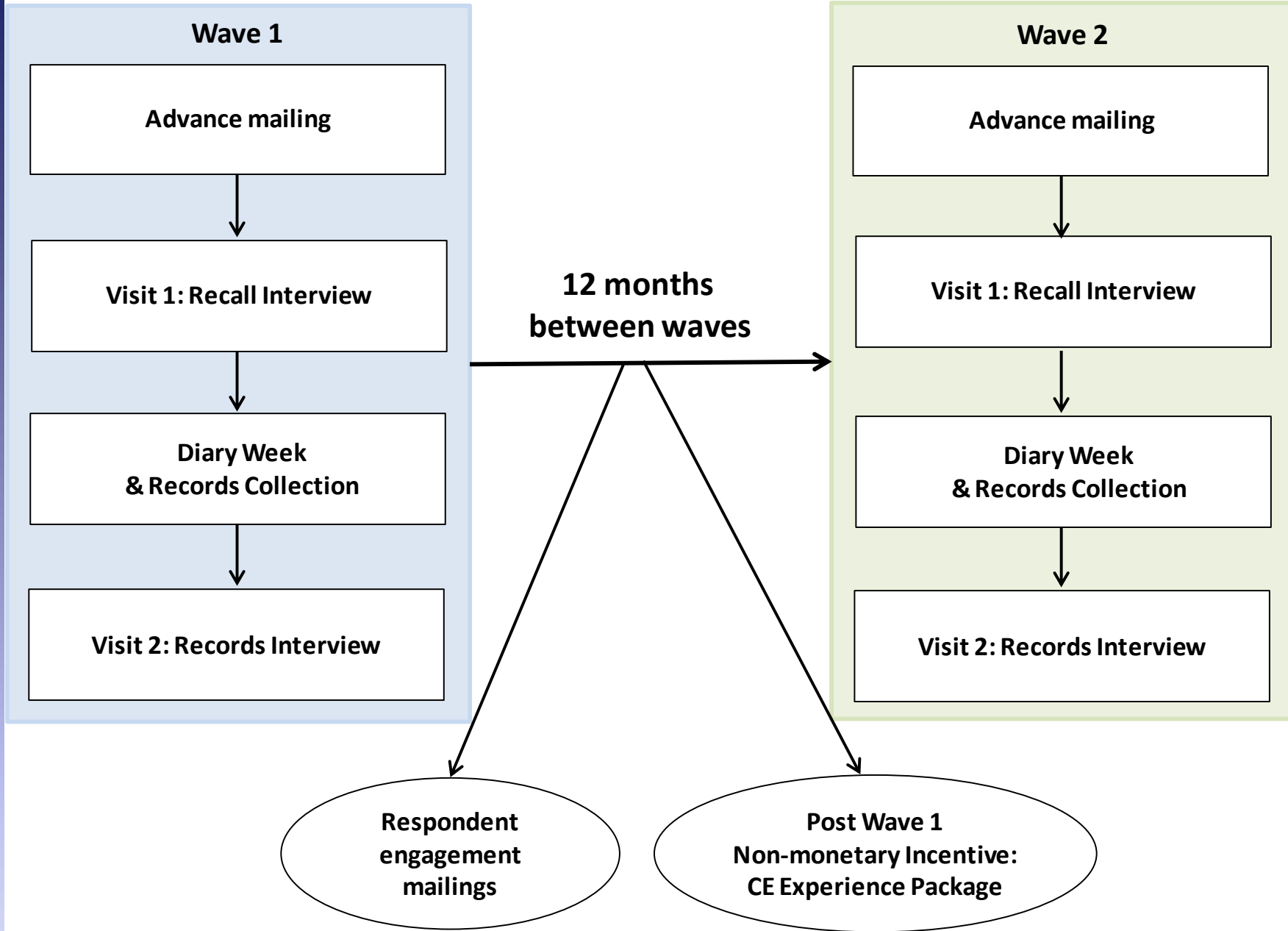
Major Issues and Decisions

1. Background – what is the topic related to technology?

2. Recommendations from reviews – what types of ideas were recommended from outside sources?

3. Adopted approach – what choices were adopted CE's redesign plan?

4. Considerations - what considerations were made when adopting the approach, particularly when differing from recommendations?

Scope of New Technology Use

1. Background/Issue:

- Which components of the current data collection process could be replaced with newer technologies?

2. Recommendations from reviews:

- Electronic diary (long term, short term, limited topics)

- Recall module – Computer assisted self administered interview (CASI), Continued use of CAPI/telephone interviewing

- Real-time recording of expenditures - Apps

- Use of household records – receipt scanning (by interviewer/centralized repository); downloading household financial information

Scope of New Technology Use (cont'd)

3. Adopted Approach:

- Web based electronic diary with paper back-up

4. Considerations:

- Concern about respondent cooperation with self-administration of recall and with longer duration diaries
- Concern about development resources and security with real-time apps and receipt scanning
- Interviewer/centralized repository scanning of receipts viewed as impractical in large survey
- Telephone interviews minimized

Role of the Interviewer

1. Background/Issue:

- How does the field interviewer's role change in presence of newer technology?

2. Recommendations from reviews:

- Current interviewer role continues for CAPI recall modules

- Interviewer becomes trainer/coach for newer technology adaptations (Reassurance, Training, Feedback, Continued encouragement)

- Monitoring – centralized versus interviewer monitoring

Role of the Interviewer (cont'd)

3. Adopted Approach:

- Interviewer becomes trainer / coach

- Centralized monitoring with interviewer follow-up

4. Considerations:

- Centralized monitoring limits the impact on interviewers

- Centralized monitoring allows leverage of technology through automation

Household's Use of Technology

1. Background/Issue:

- Should the government supply the devices?

- Should there be one device for all respondents?

- Should the data collection application be web-based or local?

2. Recommendations from reviews:

- Owner of device: Government vs. respondent vs. mix

- Each person enters his/her own expenditures from own device vs. having a common tablet for everyone

- Web-based application for all collection vs. mix of web and local app for mobile device vs. local application for tablet

Household's Use of Technology (cont'd)

3. Adopted Approach:

- Web-based application designed for all devices (pc; mobile)

- R's age 15+ use their own devices, use paper if necessary

4. Considerations:

- Hardware ownership: Overall costs; Easier to keep up with technology if not owned; Users may not want more technology; FR safety concerns

- Multiple devices maximizes self-reporting

- Software: more familiarity with web-based applications; Respondent hesitancy downloading software

Confidentiality and Technology

1. Background/Issue:

What are the constraints of the security requirements for:

- Transmitting and storing data securely
- Within household confidentiality

2. Recommendations from reviews:

- Storage and transmitting data
  - Use Web-based application (no data transmission required)
  - Entering data on device and is encrypted/securely transmitted
- Shared vs. individual diaries

Confidentiality and Technology (cont'd)

3. Adopted Approach:

- Enter data directly to web

- Use individual diaries

4. Considerations:

- Minimize risk of transmission of data with a web application, investigating possibility of securely storing on device for later transmittal

- Maximize within household confidentiality

Resources and respondent help

1. Background/Issue:

- How to support respondents with differing levels of technological ability?

- What can be used in lieu of the current paper diary FAQs and example pages?

2. Recommendations from reviewers:

- Interactive design to assist in data entry

- Allow direct questions to help desk

- Monitoring to identify respondents having difficulties

Resources and respondent help (cont'd)

3. Adopted Approach:

- FR to train respondents and leave user tips sheet
- Online tutorials available
- Provide system help menu
- Monitor respondent activity, FR to follow-up
- Provide respondent help desk
- Allow paper diary for respondents uncomfortable with technology

4. Considerations:

- Emphasis on user centered design, while still collecting required data
- Resources limitations to support 24/7 help desk

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