A Tradeoff: Reference vs. Recall Periods

- Surveys on diet diversity face two related design choices:
  - Recall period: the time over which choices are remembered by the respondent during the survey (e.g., did you eat last week?)
  - Reference period: the time over which a key outcome is measured

- This generates a tradeoff if reference and recall periods are the same:
  - Longer reference period: increases opportunity to observe seasonal, cyclical, or occasional items → reduces errors of omission
  - Longer recall period: increases cognitive burden of survey → exacerbates recall error (e.g., reversion to "usual" practices, telescoping)

Our Survey Method: Bounded Recall

- Our solution for this tradeoff: short bounded recall periods
- Randomized evaluation (figure 1):
  - Frequent bounded recall (FBR): short calls twice/day over 7 days marked with ‘x’ → bounded recall (BR) period between calls
  - Single interview (SI): control respondents reported on their diet during a traditional in-person survey, length of reference = recall period
- Pre-specified outcome: diet diversity scores:
  - Enumerators, listening to women describe meals and their ingredients, coded consumption using a list of 20 food groups
  - We constructed two commonly used measures:
    - Household diet diversity scores (HDDS)
    - Women’s diet diversity scores (WDDS)
- We empirically test for differences in reported dietary diversity for two standard reference periods (24 hours and 7 days)

No Differences in Diet Diversity Scores

- Comparing diet diversity scores constructed in the standard way shows no significant differences across the two survey methods.
- But frequent bounded recall over 7 days do capture more total food groups.

Differences by Food Group

- Short reference period (24 hours) differences (Fig. 2, in blue):
  - No difference in likelihood of reporting a food group by survey type
- Longer reference period (7 days) differences (Fig. 2, in red):
  - Depend on the food group
  - For 9 of 20 food groups, respondents are more likely to mention them during 14 phone calls covering 7 days than during a single 7-day recall interview
  - Respondents are less likely to mention "other fruits" during 14 phone calls covering 7 days than during a single recall interview

Telescoping, Forgetting, & Omitting

- Recalling 7 days of meals is cognitively burdensome
- Frequency of consumption can explain some but not all foods (Fig. 3)
- Items excluded during 7-day recall surveys captured by FBR on phone:
  - Ingredients used so often they’re not noteworthy: fats and oils
  - Infrequently consumed leafy greens and tubers
  - Occasional splurges: alcohol, sugar, honey, and sweets; tef
- Special, high value, infrequently consumed foods (Fig. 3) without exacerbating recall biases, which can help reduce within-person measurement errors of programmatic outcomes such as dietary diversity.

Conclusions & Implications

- We add new experimental evidence that the length of the recall period matters, confirming the cognitive burden respondents face in reporting dietary intake data over a 7-day recall period.
- We shed light on the specific mechanisms (forgetting vs forward telescoping) that contribute to reporting differences between the FBR and SI methods.
- We offer a promising approach to extend respondents’ reference periods without exacerbating recall biases, which can help reduce within-person measurement errors of programmatic outcomes such as dietary diversity.

No new experimental evidence that the length of the recall period matters, confirming the cognitive burden respondents face in reporting dietary intake data over a 7-day recall period.
- We analyze the specific mechanisms (forgetting vs forward telescoping) that contribute to reporting differences between the FBR and SI methods.
- We offer a promising approach to extend respondents’ reference periods without exacerbating recall biases, which can help reduce within-person measurement errors of programmatic outcomes such as dietary diversity.