



United States Department of Agriculture

# Examining Response Fatigue and Non-cooperation in the National Household Food Acquisition and Purchase Survey (FoodAPS)

Consumer Expenditure Survey  
Survey Methods Symposium  
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# Acknowledgements and Disclaimer

- Co-authors Brady T. West, Mengyao Hu, and Garrett Gremel (University of Michigan)
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- The views expressed are those of the authors and should not be attributed to the Economic Research Service or the U.S. Department of Agriculture.



# What's the issue?

- FoodAPS is a diary survey designed to collect data on all food acquisitions by household members over a 7-day period.
  - “Acquisition” is an event in which food is purchased or otherwise acquired
- Potential for non-reporting of food acquisitions in FoodAPS by household members
  - Refuse to participate on given day or entire week
  - Report some but not all food events on a given day
  - Report some but not all food items for a given event



# Today's focus

- Potential for non-reporting of food acquisitions in FoodAPS by household members

– Refuse to participate on given day or entire week (at person level)

- Report some but not all food events on given day
- Report some but not all food items for a given event



# Research questions

- How often did members refuse to participate?
- Who refused to participate?
- Was there variation in the rate of refusals over data collection week?
  - Any evidence of response fatigue?



# Data source?

- Survey paradata from FoodAPS
- But first, need to understand overall structure of data collection in FoodAPS



# Data collection in FoodAPS

- **Primary respondent (PR)** identified as the person “who does most of the grocery shopping or who is the main meal planner”
- 2 in-person interviews
- All members 11 or more years old track their food acquisitions
- PR gathers info and calls survey center 3 times during week



# Overview of planned data collection week

Mon	Tues	Wed	Thu	Fri	Sat	Sun	Mon	Tue
0	1	2	3	4	5	6	7	8

Members track food acquisitions in booklets and with scanner



**PR calls to report**



**PR calls to report**



**PR calls to report**

**Screener**

**Initial Interview and training**

**Final Interview**

**Feedback Survey**



# Phone calls provide paradata

- For each household member on each day, whether status was:
  - Acquired food (confirmed yes)
  - Did not acquire food (confirmed no)
  - Refused to provide info (refused)
  - PR didn't know (unconfirmed)
- 14,317 members → 100,219 person-days

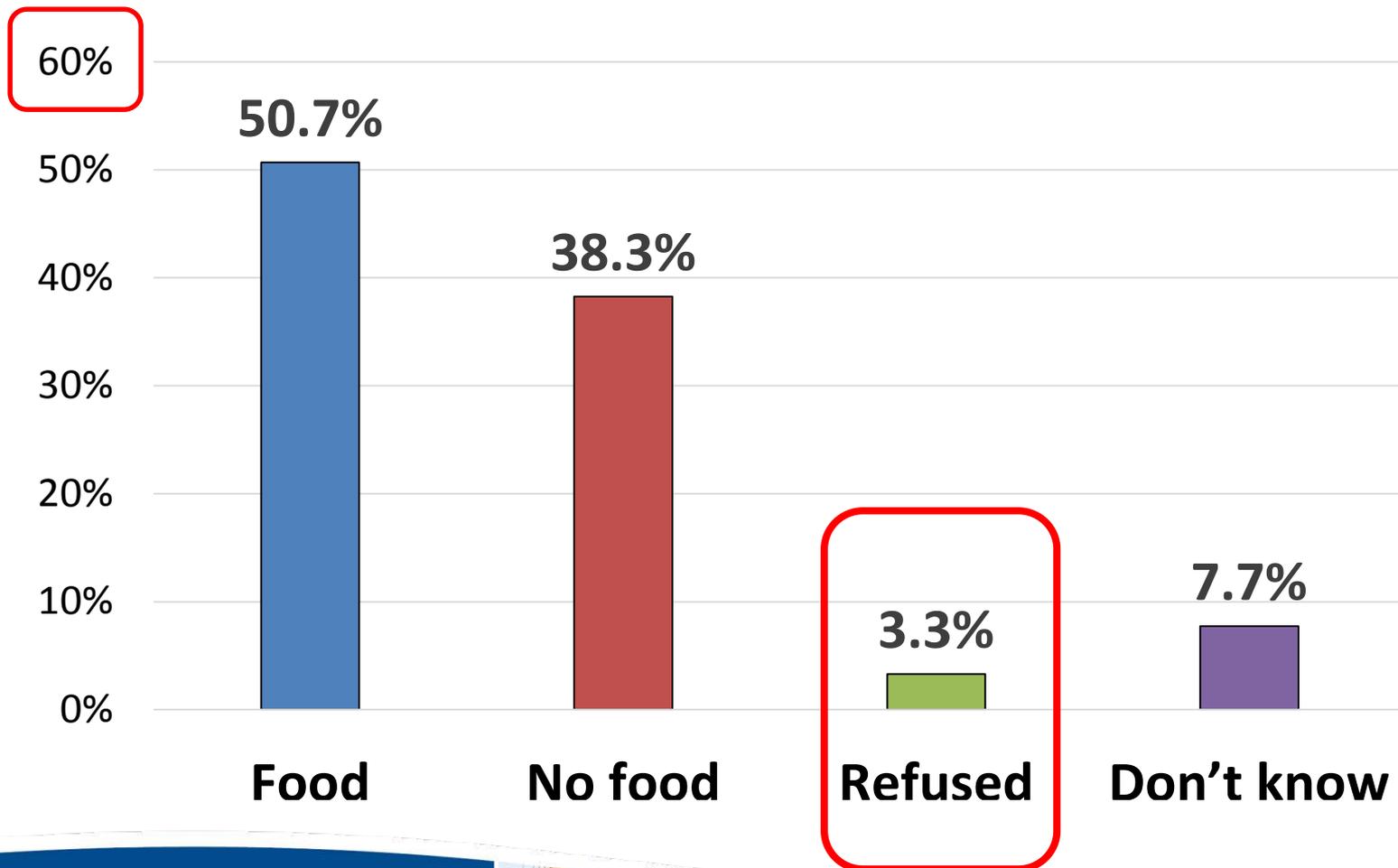


# Results

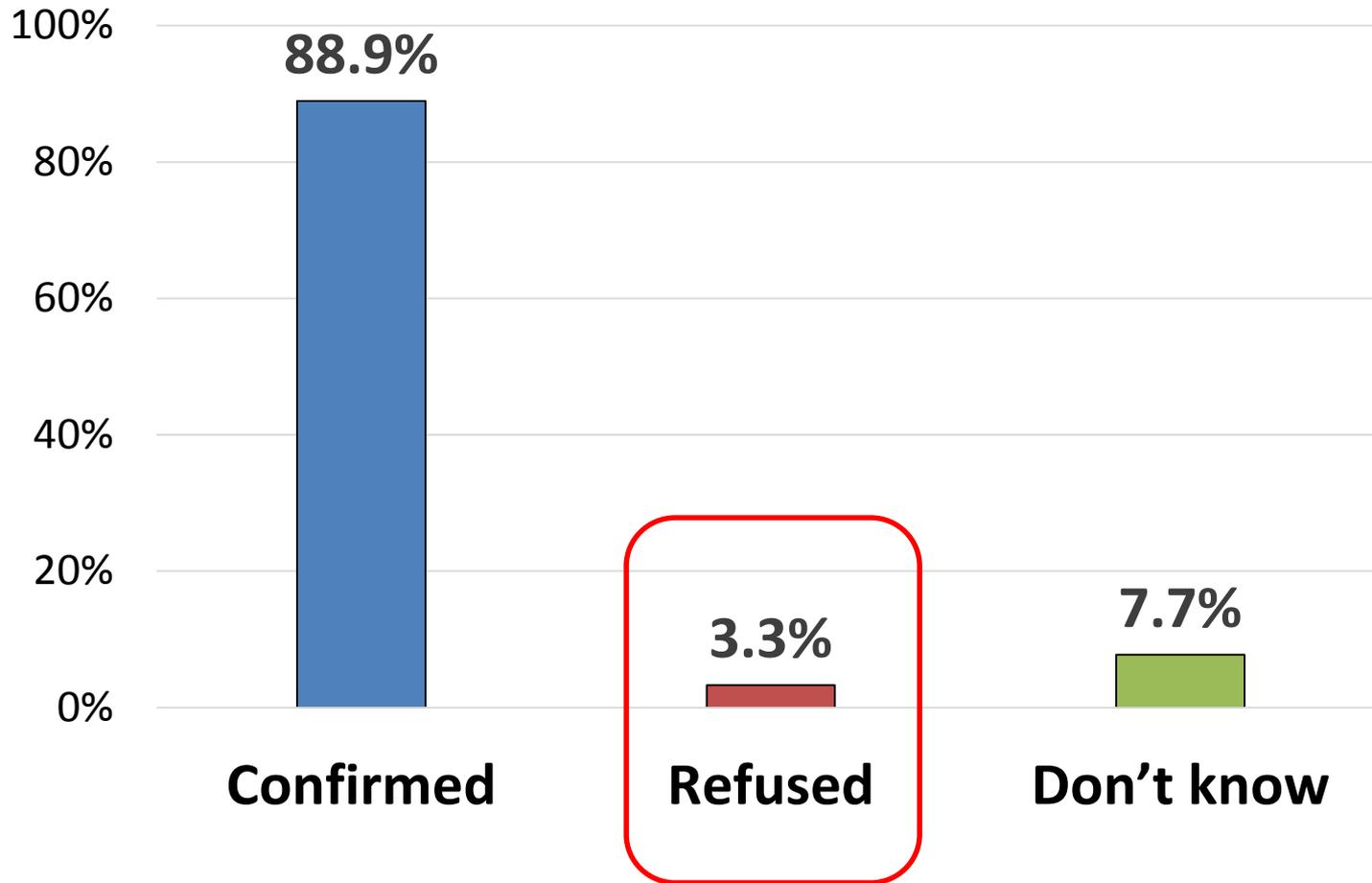
- How often do members refuse to participate?
- Who refuses?
- Is there variation over data collection week (response fatigue)?



# How often do members refuse to participate?



# Collapsed distribution



# To address questions of who and week-day effects...

- Model member reporting status
  - Multinomial logistic regression
  - Confirmed (reference), refused, unconfirmed



# Covariates

- Sex, age, education, race, marital status, income, BMI, completed Meals & Snacks form
- Relationship to PR
- Household size, days since last SNAP issuance
- Self-reported financial condition, frequency of bill review, frequency of paying bills on time

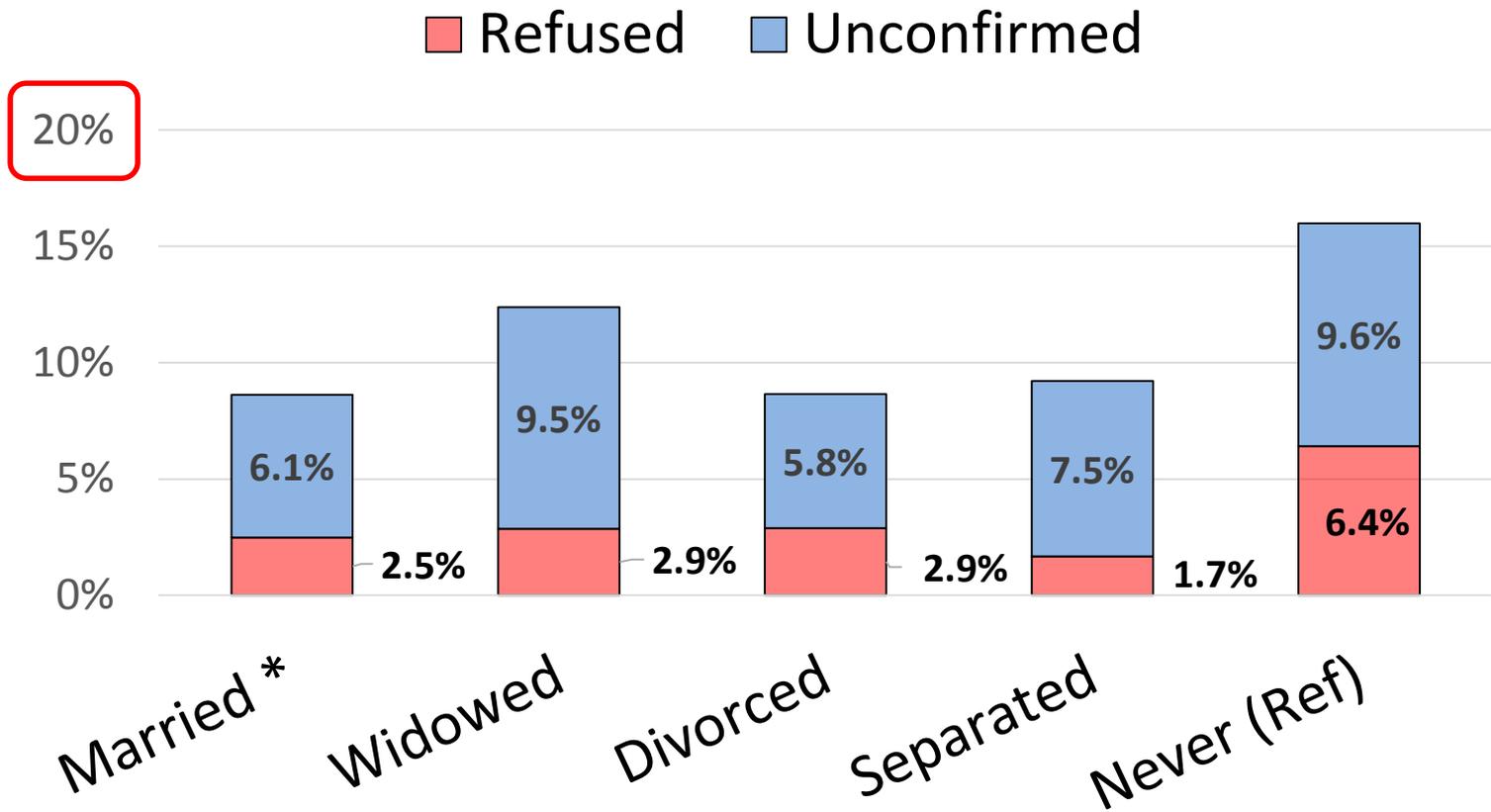


# Paradata covariates

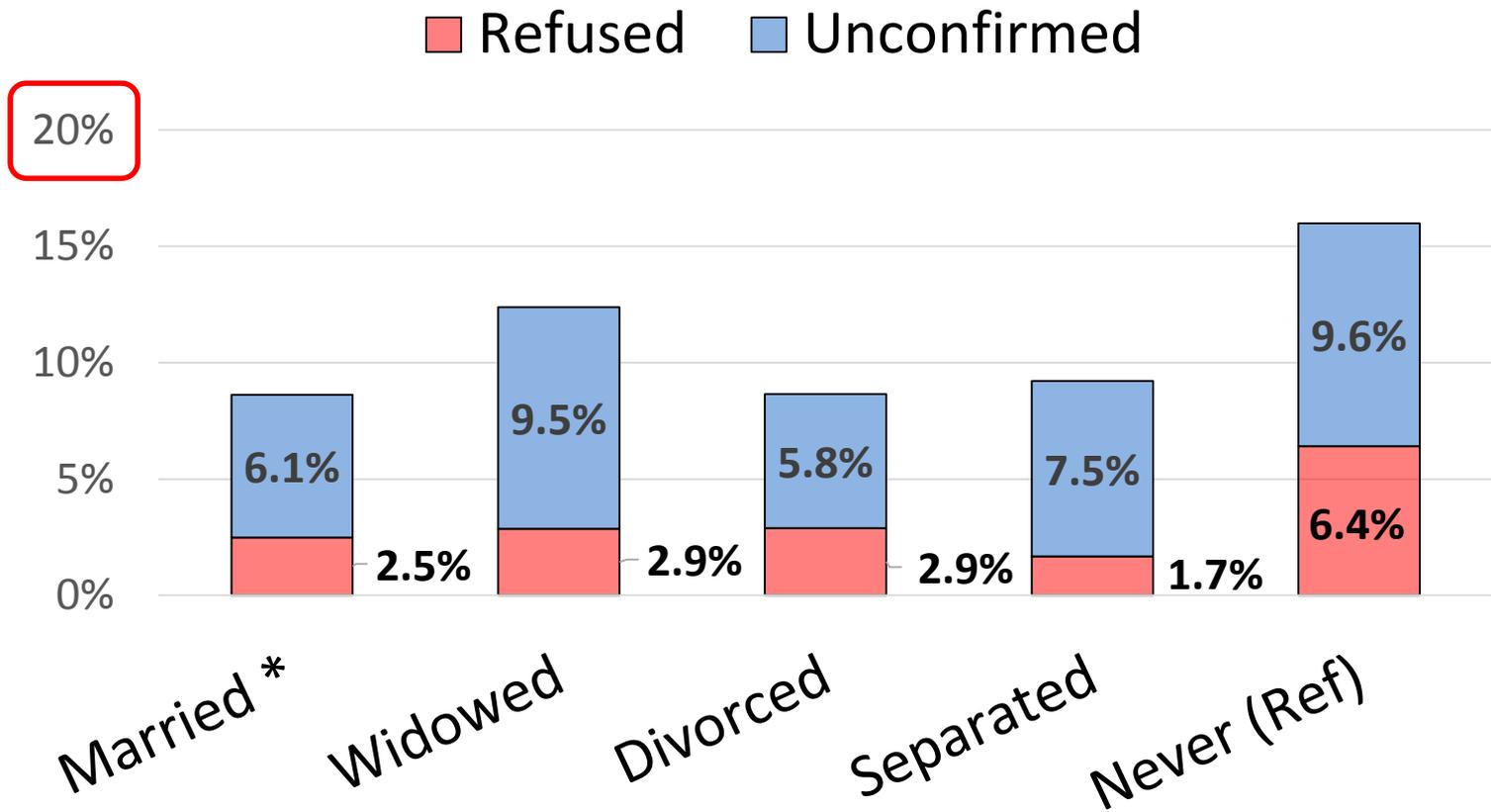
- Difficulty to get members to participate, ease of keeping track of foods
- Numbers of inbound and outbound calls
- Start-date cohort (day of week)
- Fielding day (continuous and centered as 0-6)
- Interaction of start-date and fielding day



# Who refuses to participate? ... by marital status

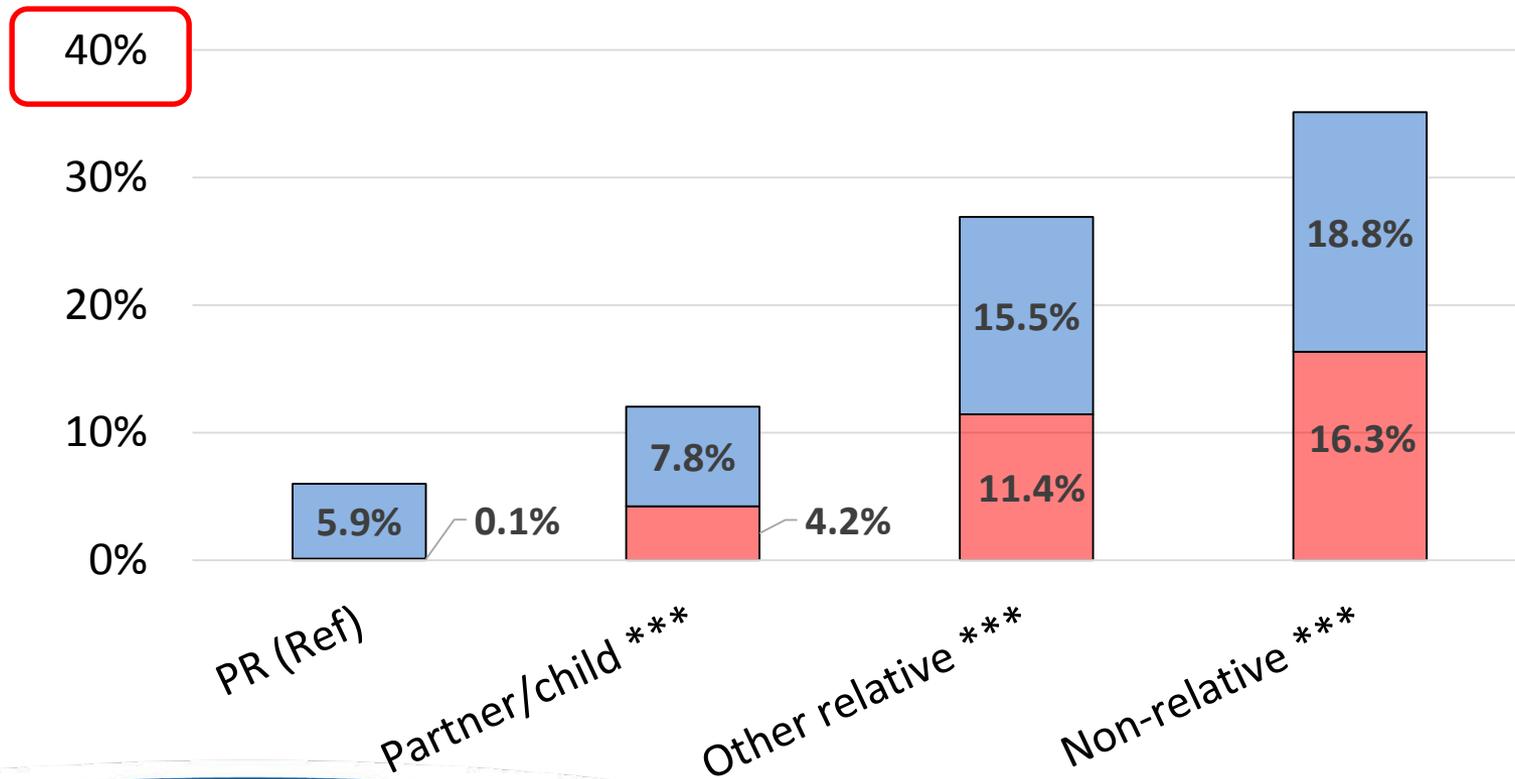


# Who refuses to participate? ... by marital status



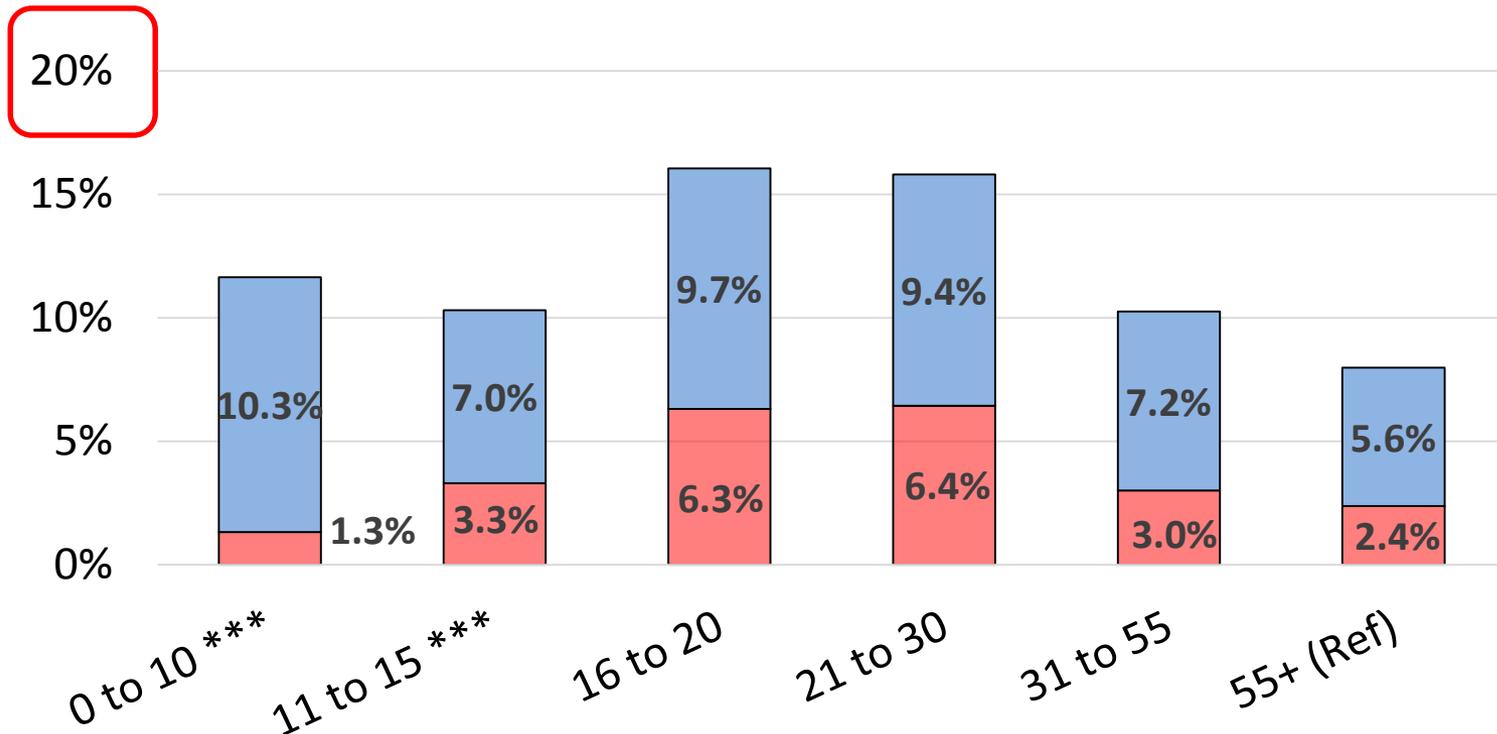
# Who refuses to participate? ... by relation to PR

Refused Unconfirmed



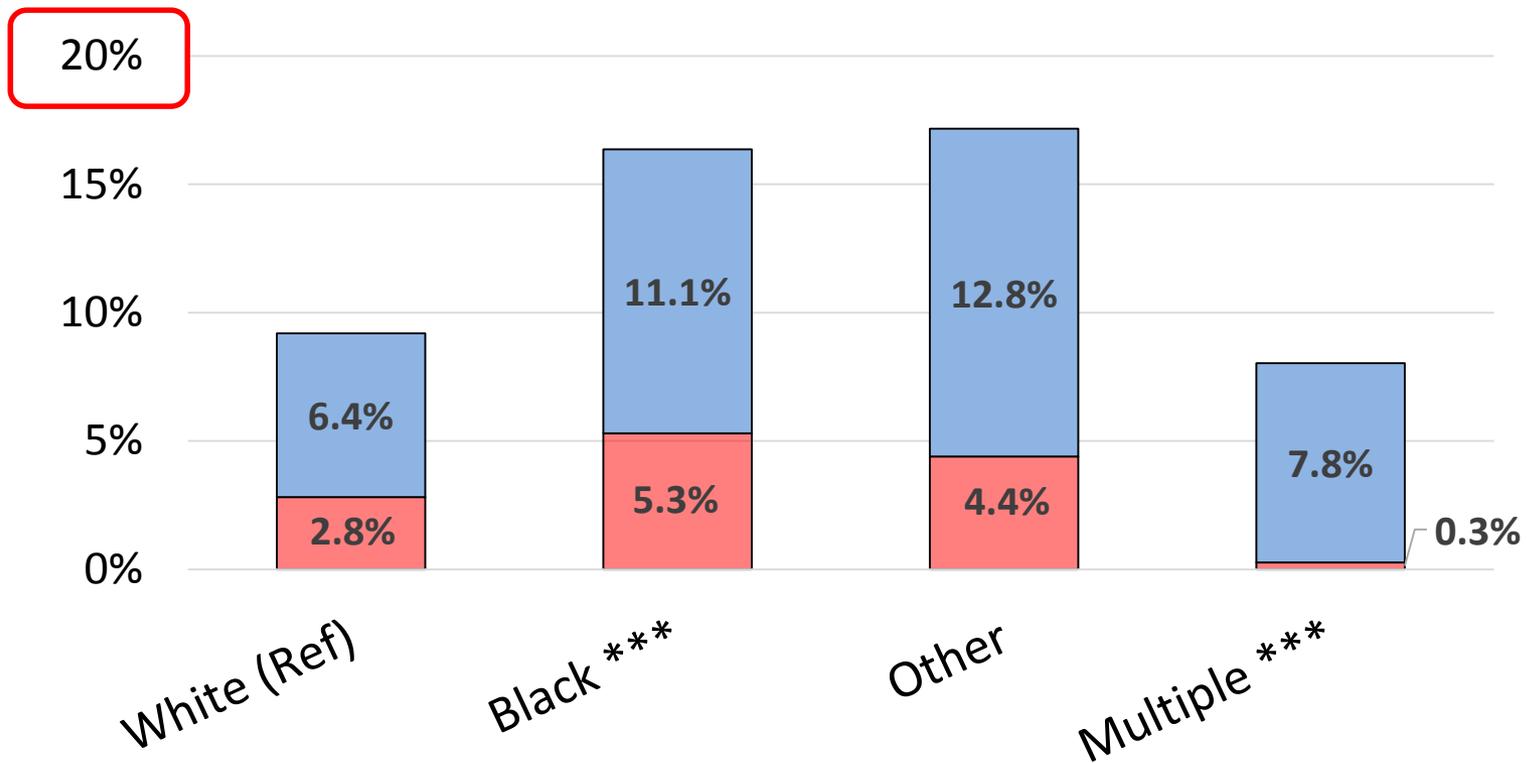
# Who refuses to participate? ... by age group

Refused Unconfirmed



# Who refuses to participate? ... by race

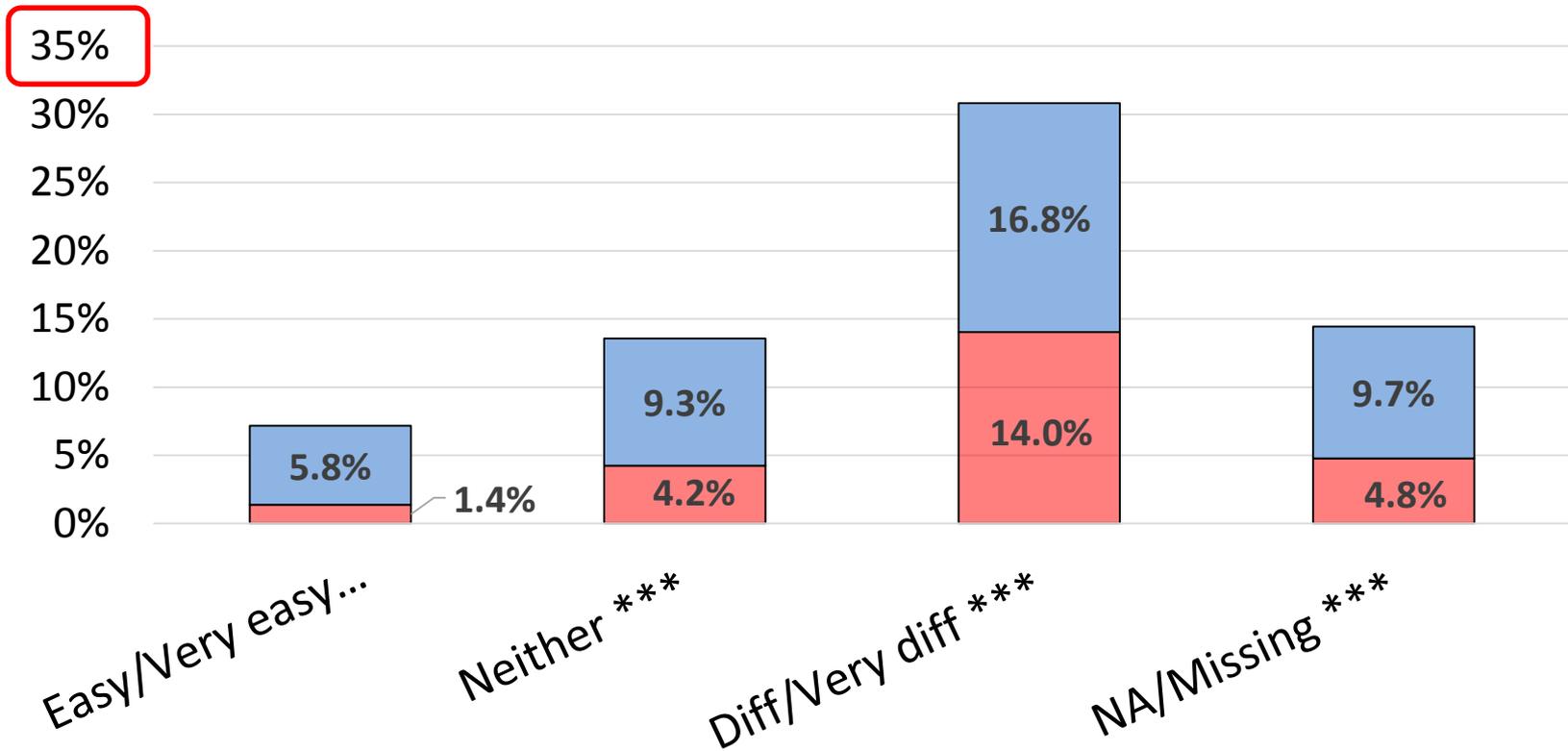
Refused Unconfirmed



# Who refuses to participate?

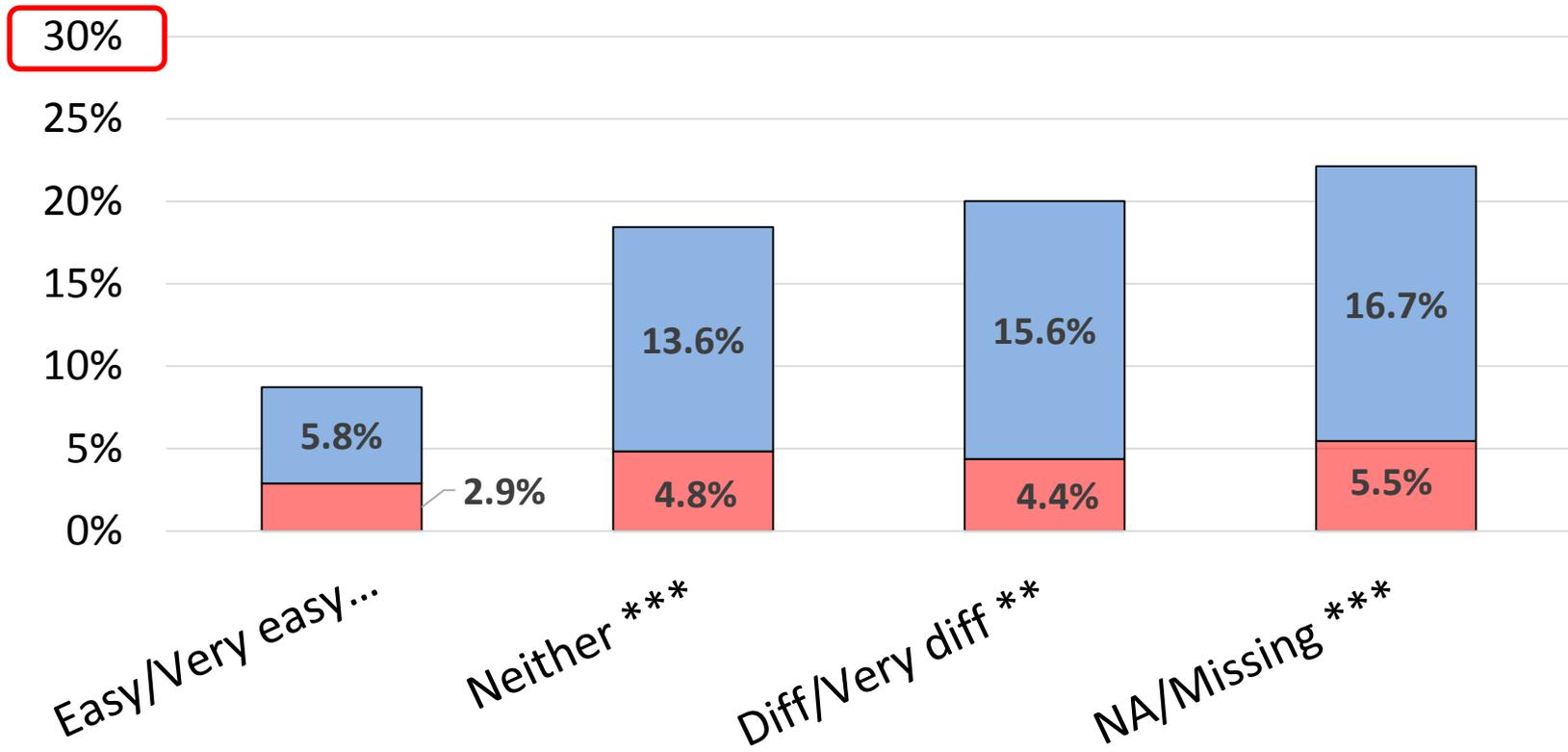
... by ease of getting members to participate

■ Refused ■ Unconfirmed



# Who refuses to participate? ... by ease of keeping track of foods

Refused Unconfirmed

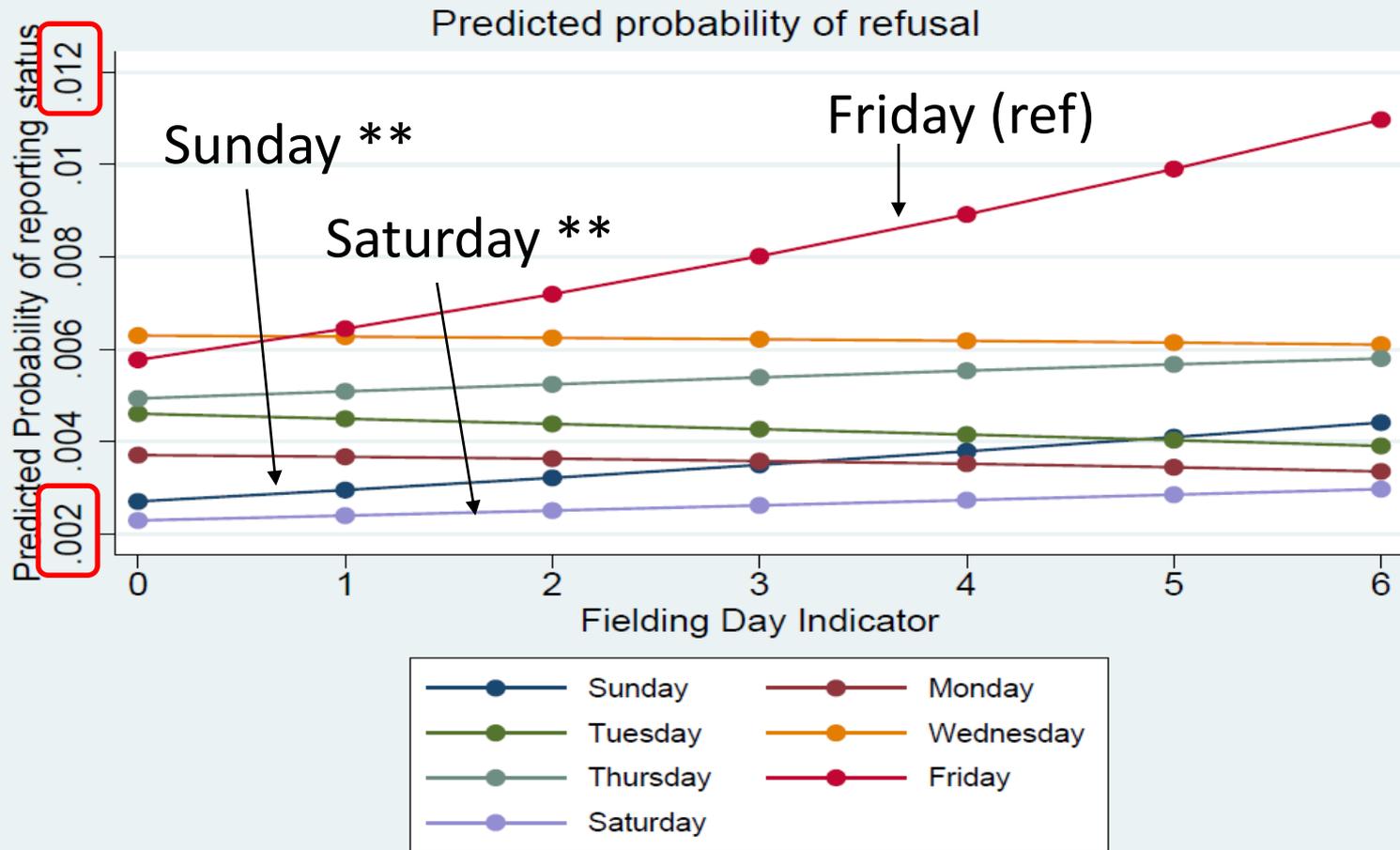


# Temporal effects and response fatigue

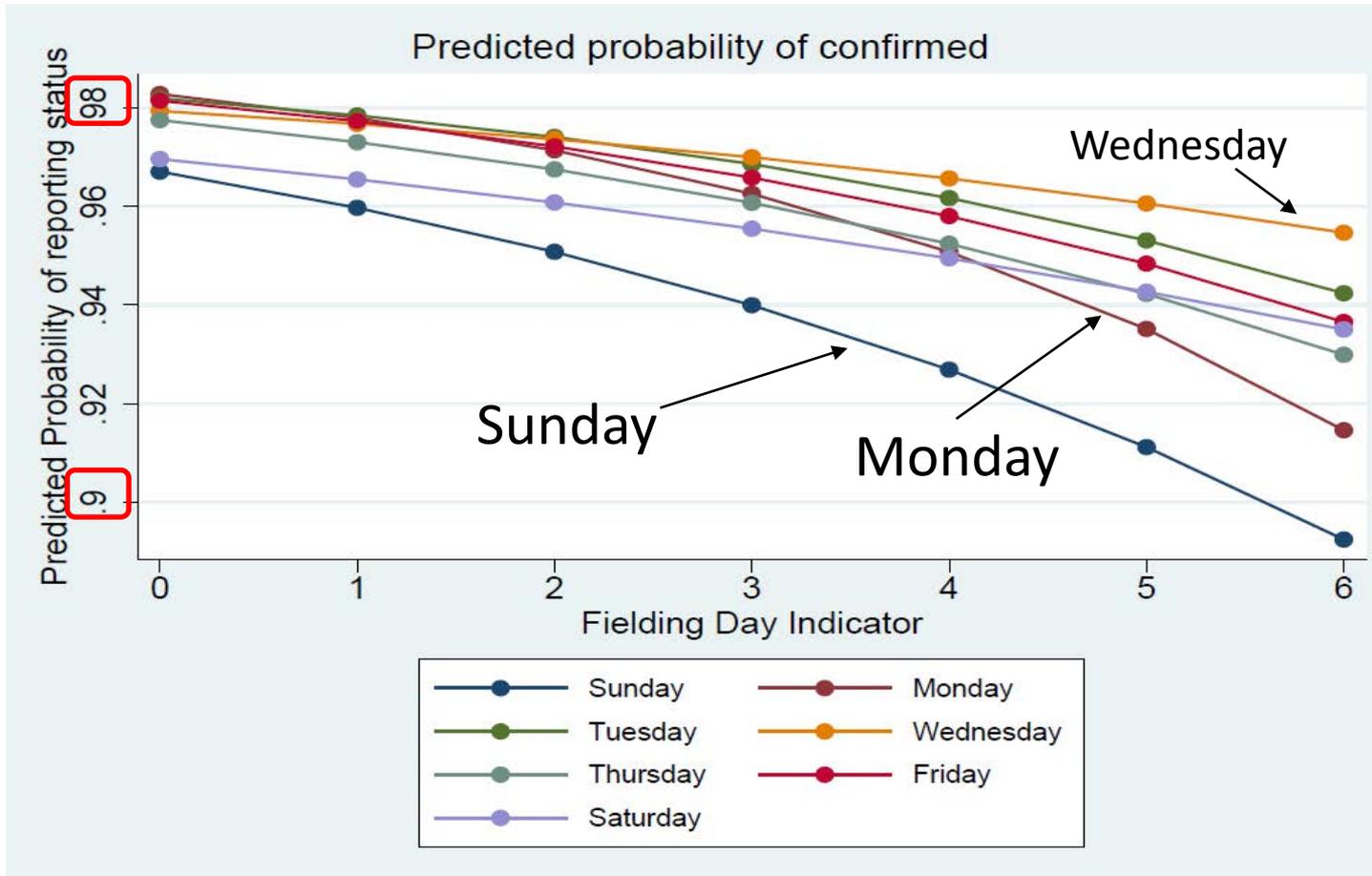
- Graphs are now predicted probabilities of reporting status by fielding day
- Covariates are:
  - Fielding day (continuous and centered),
  - Start-date (Sun, Mon,..etc), and
  - Interaction of fielding day and start-date



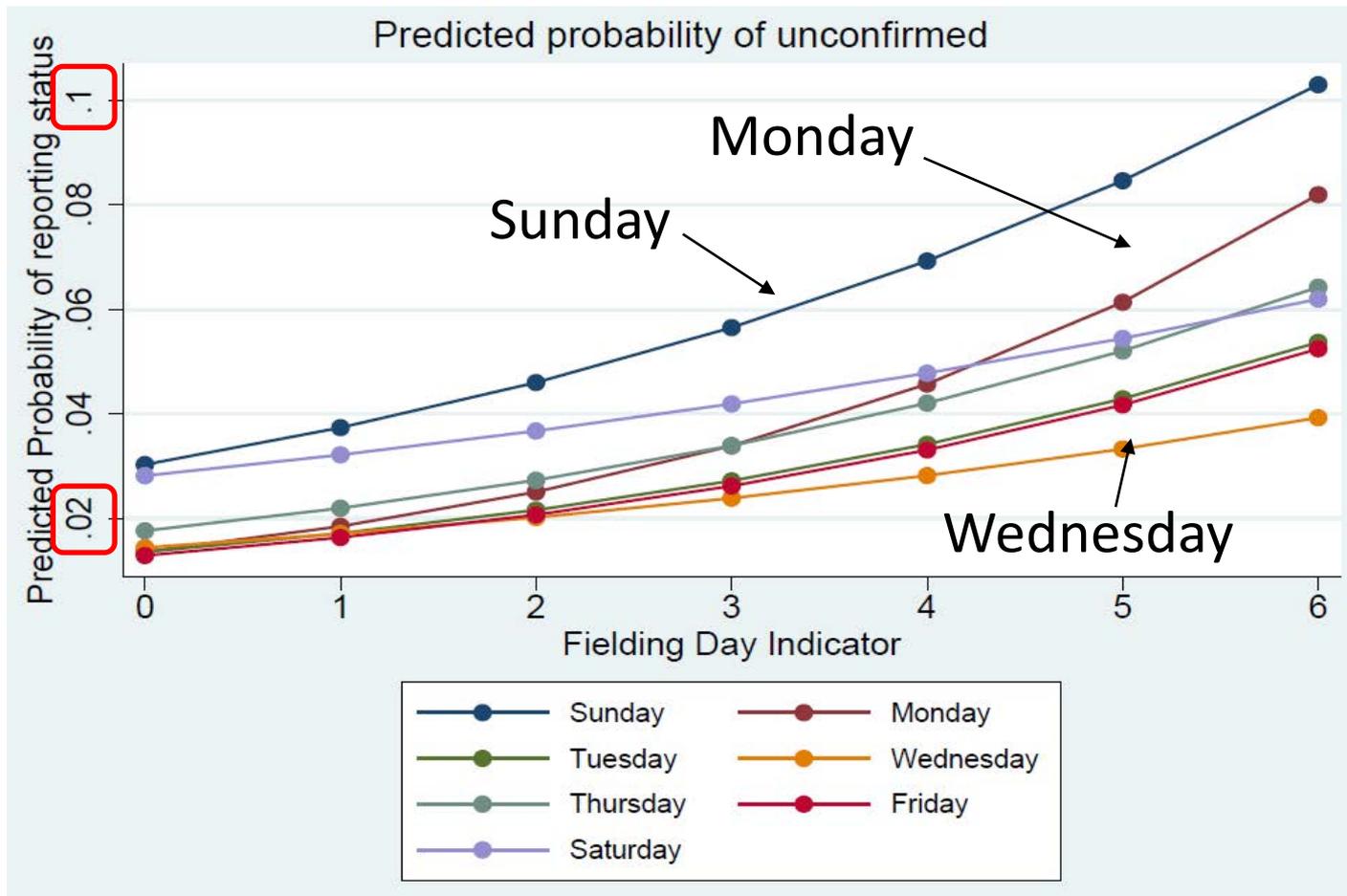
# Predicted refusals by fielding day



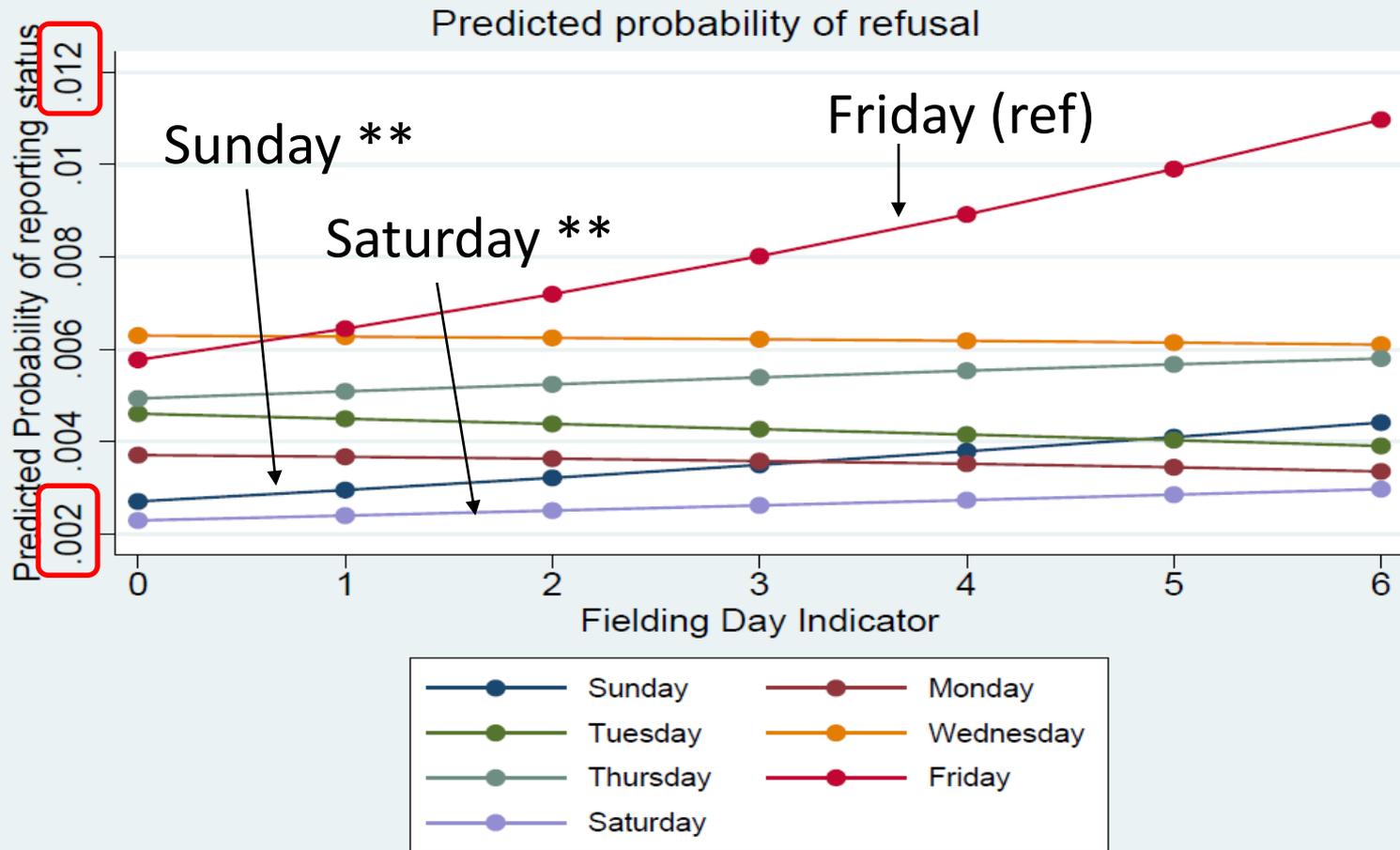
# Predicted confirmeds by fielding day



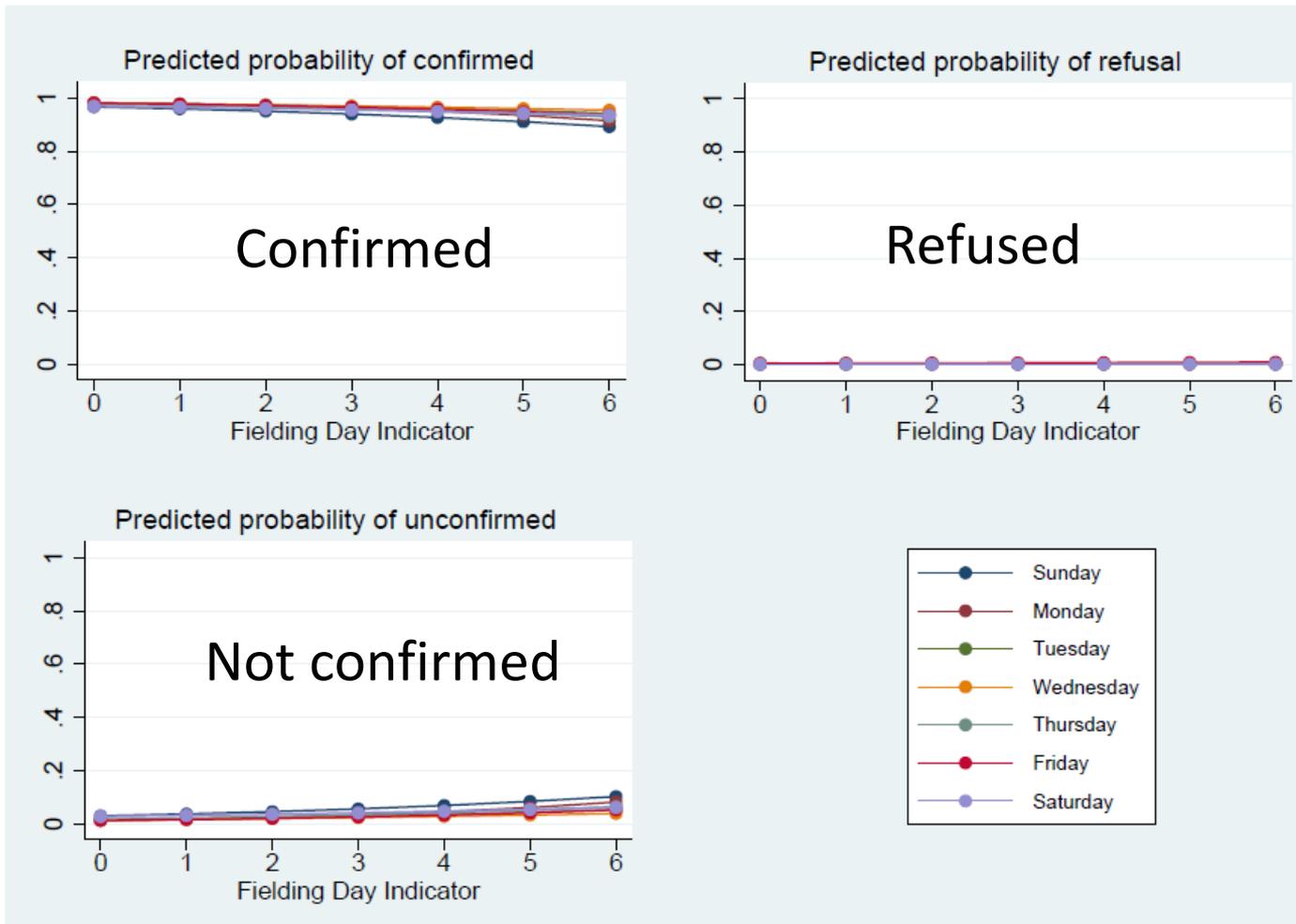
# Predicted unconfirmeds by fielding day



# Again, predicted refusals by fielding day



# Reality check (same scale)



# Recap – Variation over time?

- Some evidence of response fatigue
- But seems to be focused on those households that start data collection on a Friday, Saturday or Sunday
- Survey protocol led to many unconfirmed days of no reported acquisitions near end of week



# Recap - Who most likely to refuse?

- Older teens, adults and seniors
- Never married
- African-Americans
- Non-relatives and “other” relatives of PR



# Implications for Diary Surveys

- Day-by-day variation in response rates may be important and informative
- Response fatigue exists in FoodAPS, but not to a great degree
- Is there a cohort effect? Maybe, but why? Worthy of additional research.



# Implications (cont)

- For next FoodAPS, need to work on reducing the unconfirmeds
- Provide extra training, reminders, or other inducements to those expected to have higher rates of non-participation.



# Thank you!

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<http://www.ers.usda.gov/data-products/foodaps-national-household-food-acquisition-and-purchase-survey.aspx>



Extra slides, if needed



# Key Characteristics of FoodAPS

- Fielded from April 2012 to January 2013
- Oversampled households participating in the Supplemental Nutrition Assistance Program (SNAP) and other low-income households
- Nationally representative,  $N \approx 5,000$

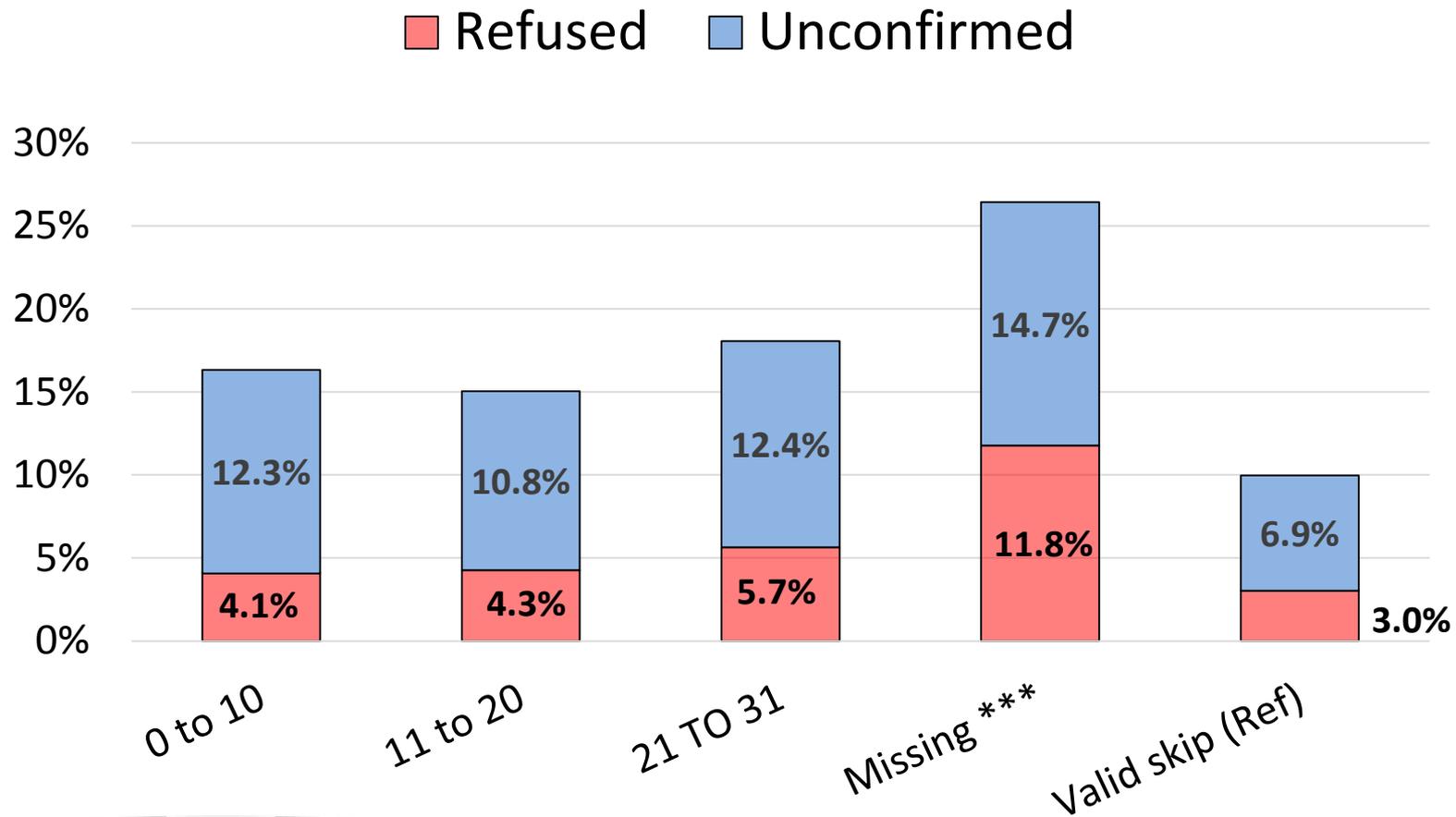


# FAH vs. FAFH

- FAH
  - Groceries and other foods and drinks you brought home
- FAFH
  - Meals, snacks, and drinks you got outside your home

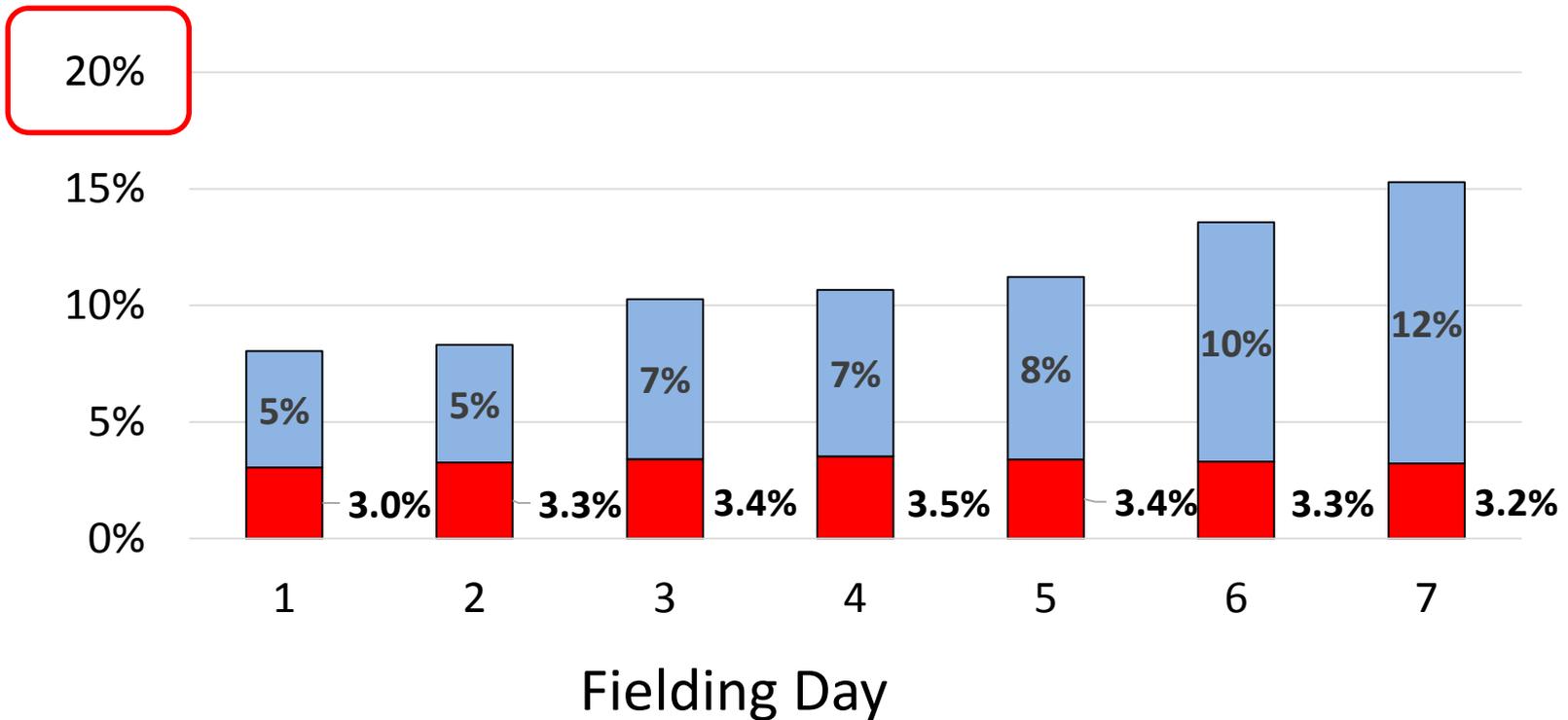


# Who refuses to participate? ... by days since SNAP issuance



# Status by fielding day

■ Refused    ■ Unconfirmed



# Who refuses to participate? ... by inbound calls

