

Analyzing the Impact of Resource Optimization Strategies on Costs and Data Quality

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Disclaimer

- The information is being released for statistical purposes, to inform interested parties, and to encourage discussion of work in progress.



Presentation Agenda

- Background on the Consumer Expenditure Surveys (CE)
- Resource Optimization Strategies in FY24
 - ▶ Reason for strategic optimization
 - ▶ Specific measures implemented in FY24
- Motivation for Analysis
- Data & Methodology
- Analytical Findings
 - ▶ Interview Survey
 - ▶ Diary Survey
- Next Steps



CE Survey Background



CE Survey Background

- Collects spending data on the U.S. Population
- Provide expenditure weights for the U.S. Consumer Price Index (CPI)
- Sponsored by the Bureau of Labor Statistics, collected by the Census Bureau
- Survey participants report dollar amounts for all non-investment purchases. Business expenses and reimbursements are excluded.
- Two independent surveys:
 - ▶ Interview Survey: 4 waves, 3-month recall of large and regular expenses
 - ▶ Diary Survey: Household characteristic survey and two consecutive one-week expenditure diaries



CE Resource Optimization Strategies in FY24



FY24 Resource Optimization Background

- Cost estimates for data collection much higher than previous years (due to increased costs for collection – FR salaries, mileage, etc.)
 - ▶ No increase to BLS's Operational Authority (budget)
- These conditions necessitated a strategy for resource optimization in FY24.



FY24 Cost-Reduction Background (cont.)

- CE program faced similar circumstances in at the end of FY22.
 - ▶ At risk of budget shortfall due to increased costs.
- In response the BLS and Census crafted a flat rule applying to wave 4 interviews.
 - ▶ That interviewers do not attempt cases that had any prior Type A noninterviews.
- The intention was to implement a quick solution for reducing cases to cut costs

FY24 Cost-Reduction Background (cont.)

- Informed by FY22, the BLS and Census began designing a more tailored approach to resource optimization in FY24.
 - ▶ Understanding the limited impact from typical cost-reduction measures (e.g., virtual vs. in-person meetings and training)
 - ▶ Concerns over cutting sample (normal approach to lack of funding)
- Led to the implementation of the following three measures...



Resource Optimization Measures Implemented in FY24

October 2024

- Wave-4 Cases with 3 previous Type-A outcomes removed from eligible case list (Interview Survey Only)
- Cap on average hours available to complete a case implemented. (Both Surveys)



November 2024

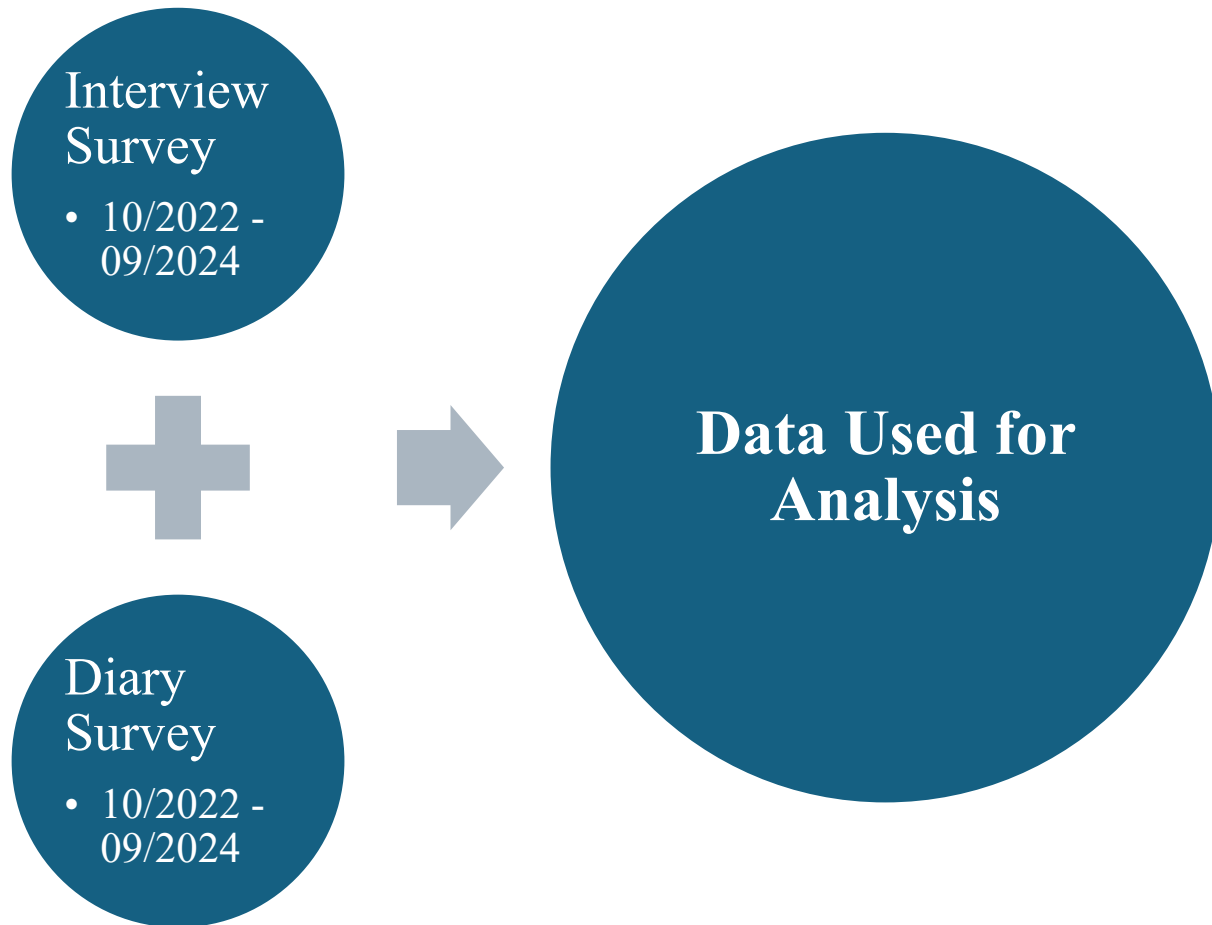
- Cap interviewers at roughly 8 contact attempts (Both Surveys)

Analysis of Resource Optimization Measures

- This analysis team was formed to investigate the impact of the resource-optimization measures on the CE Surveys.
- Specifically, we analyzed the first measure on Wave-4 interview cases, and the third measure on contact attempts.
 - ▶ By comparing contact attempts (proxy for cost), response rates, the demographic composition of our respondents, and data quality.



Data & Methodology



- In the analysis, we compared available data from **FY23 (10/2022 – 09/2023)**, to data from **FY24 (10/2023 – 09/2024)**.
 - ▶ Data from both surveys
 - ▶ FY23 data were not subject to data collection restrictions in either CE survey.

Analytical Findings

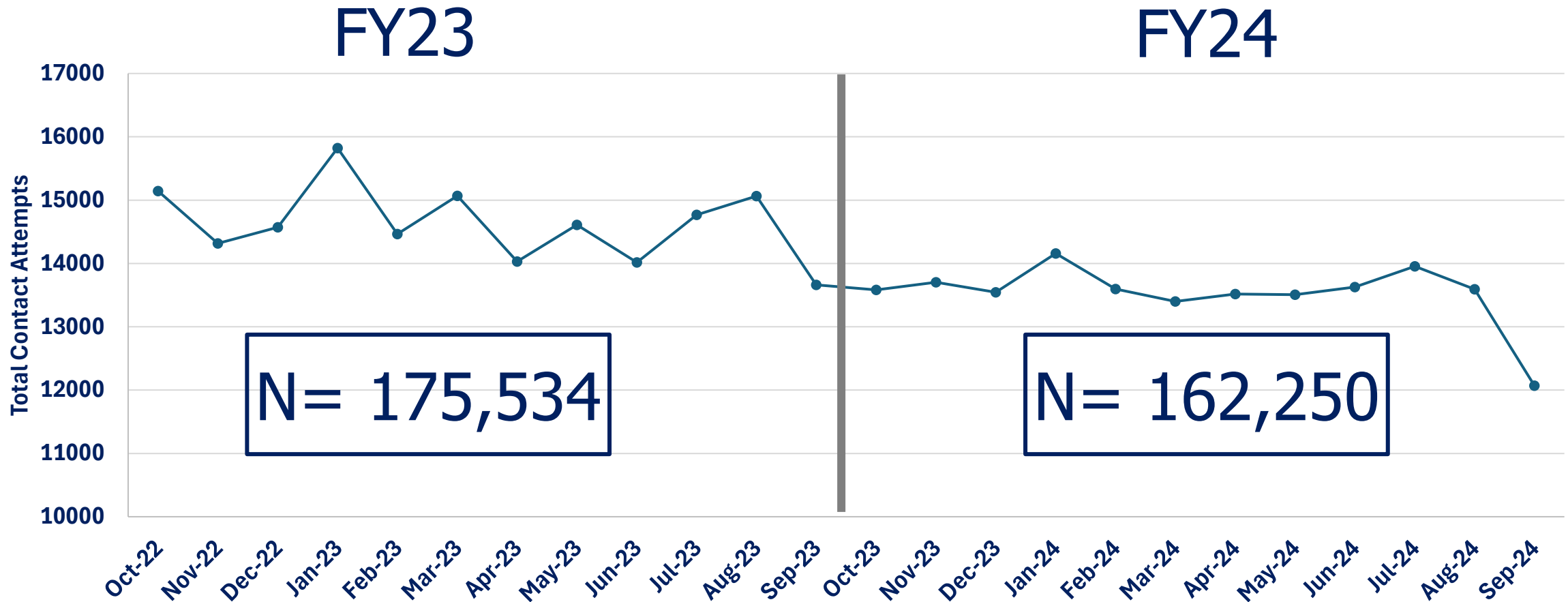


Interview Survey: Contact Attempts

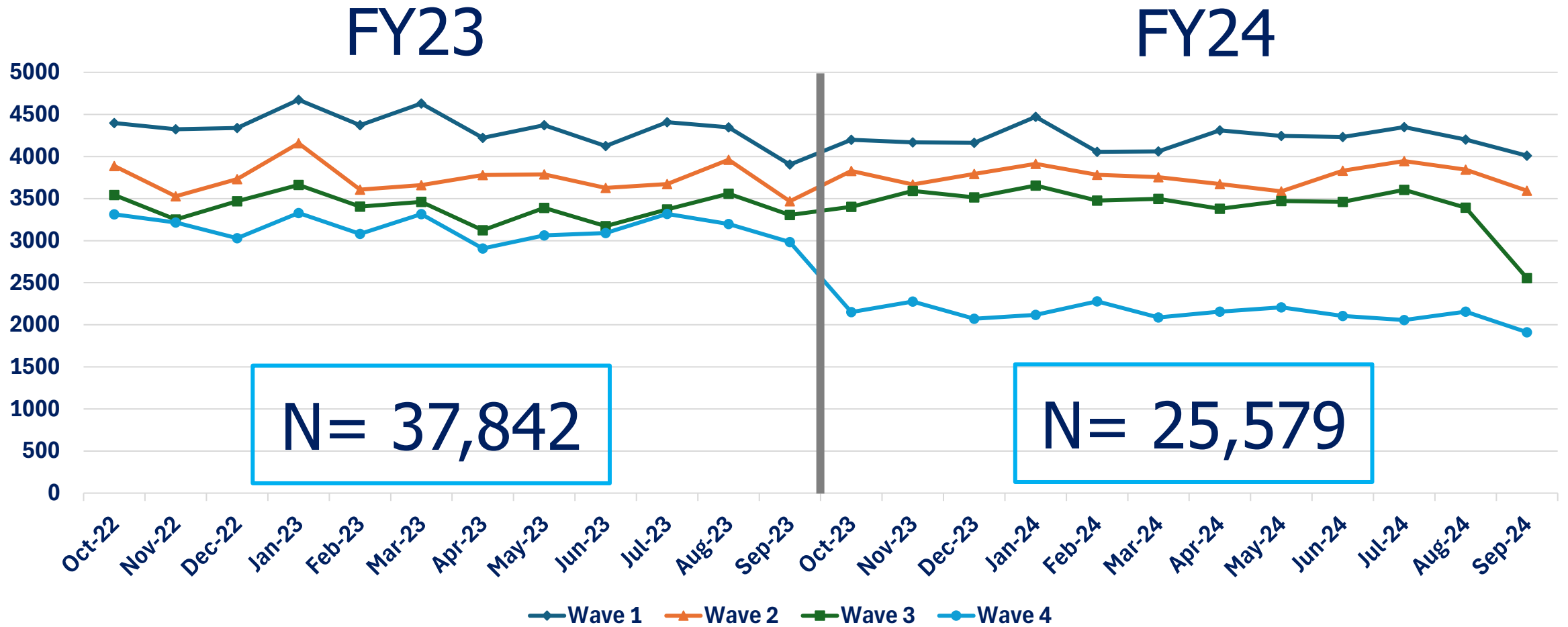
- Interviewer contact attempts served as a proxy for CE data collection costs in this analysis.
 - ▶ No exact cost estimates were available for ex-post analysis.
- Only “**qualifying contacts**” were counted in this analysis.
 - ▶ **In-person contacts** or **outgoing phone calls** (i.e., from the CE interviewer to the respondent).



Interview Survey: Total Contact Attempts

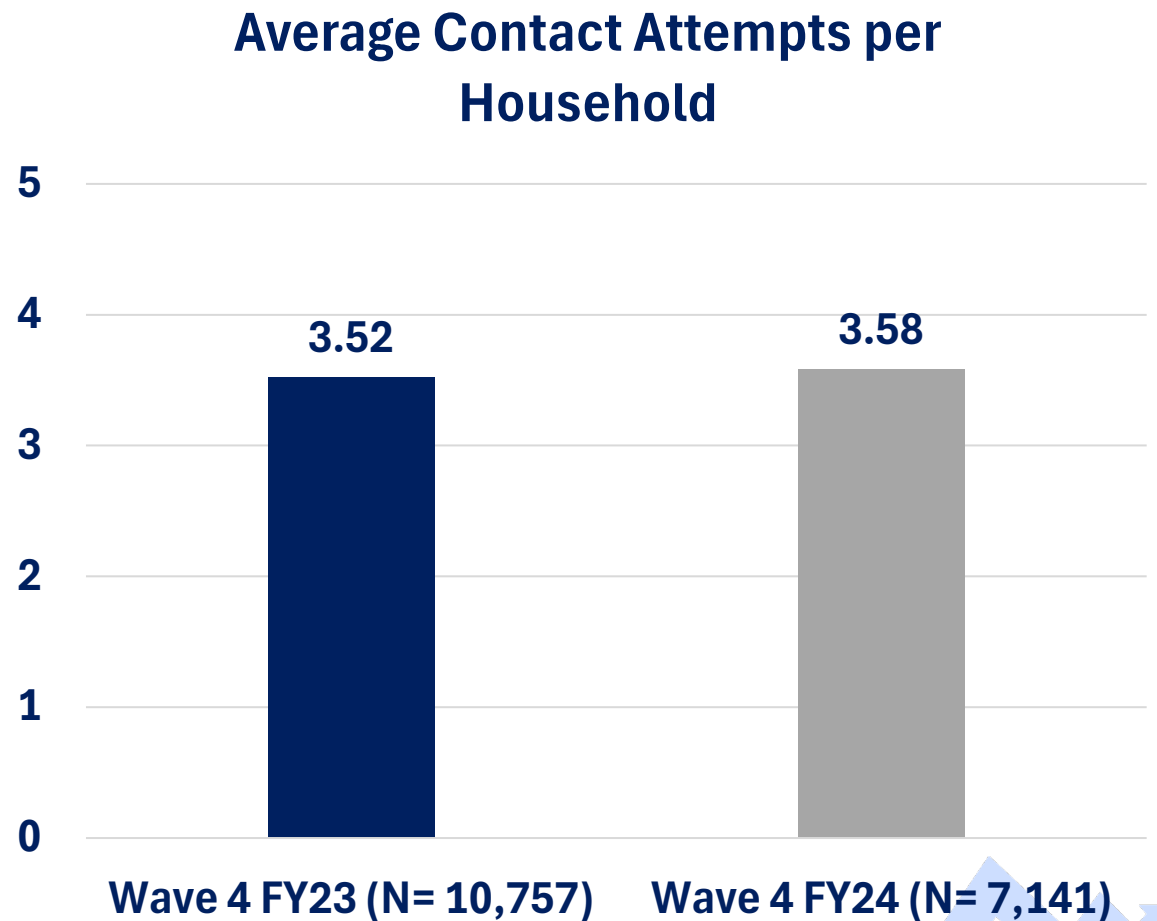


Interview Survey: Total Contacts by Wave

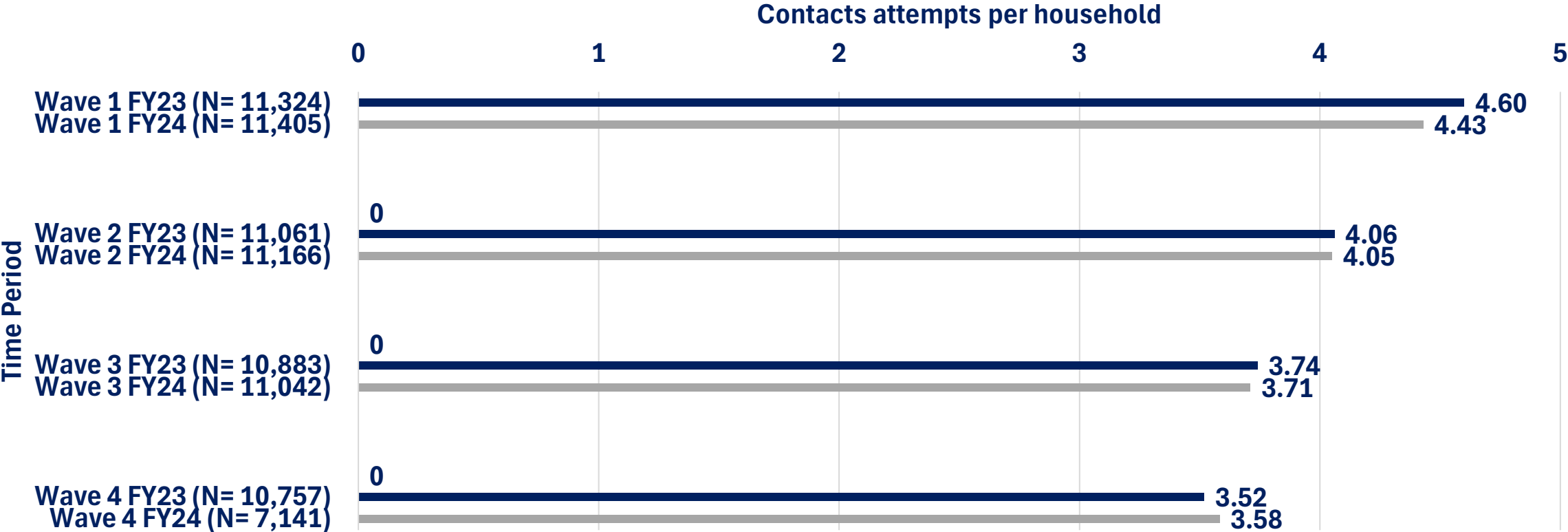


Interview Survey: 4th Wave Interview Contacts

- Eligible sample units in Wave-4 decreased 3,616 from FY23 to FY24.



Interview Survey: Contacts per Household by Wave



Interview Survey: Contact Summary

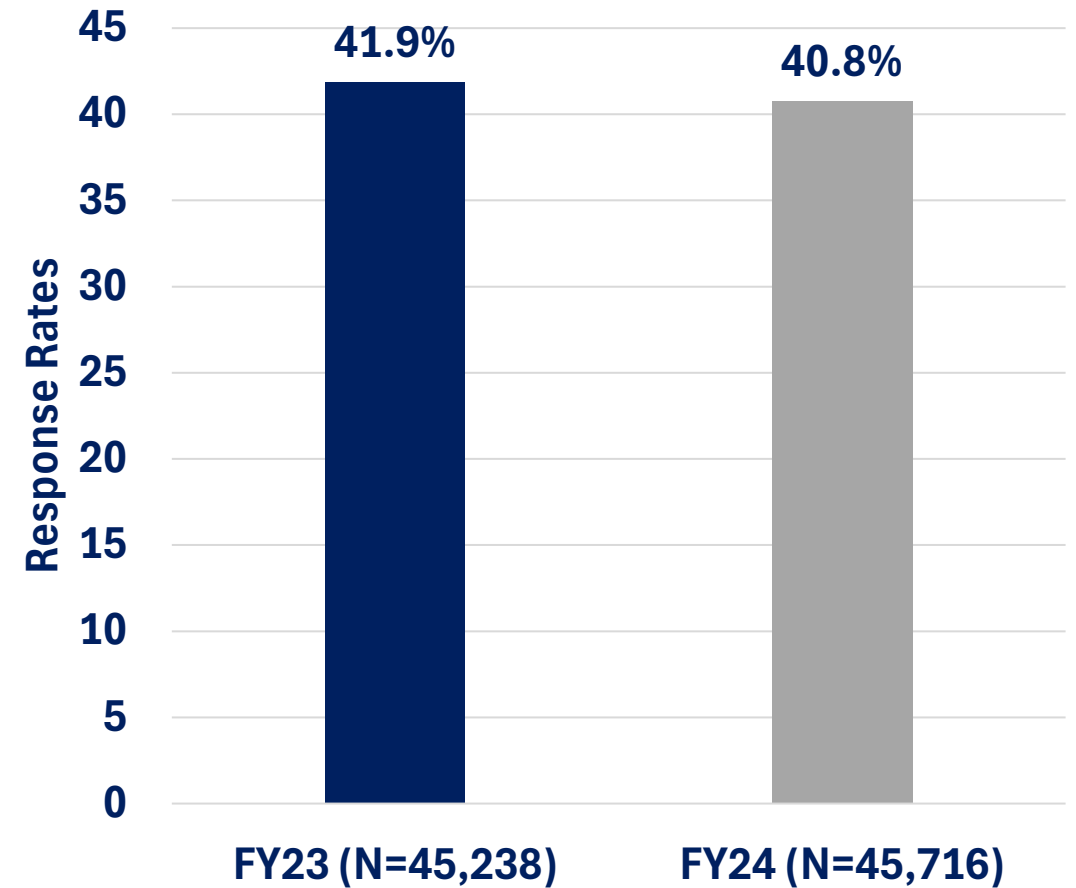
- Wave 4 Interview Rule decreased the amount of contact attempts by CE interviewers in FY24.
- Little evidence of efficiency gains from contact attempt limit.
- Still question of impact on response rates and data quality.



Interview Survey: Response Rates

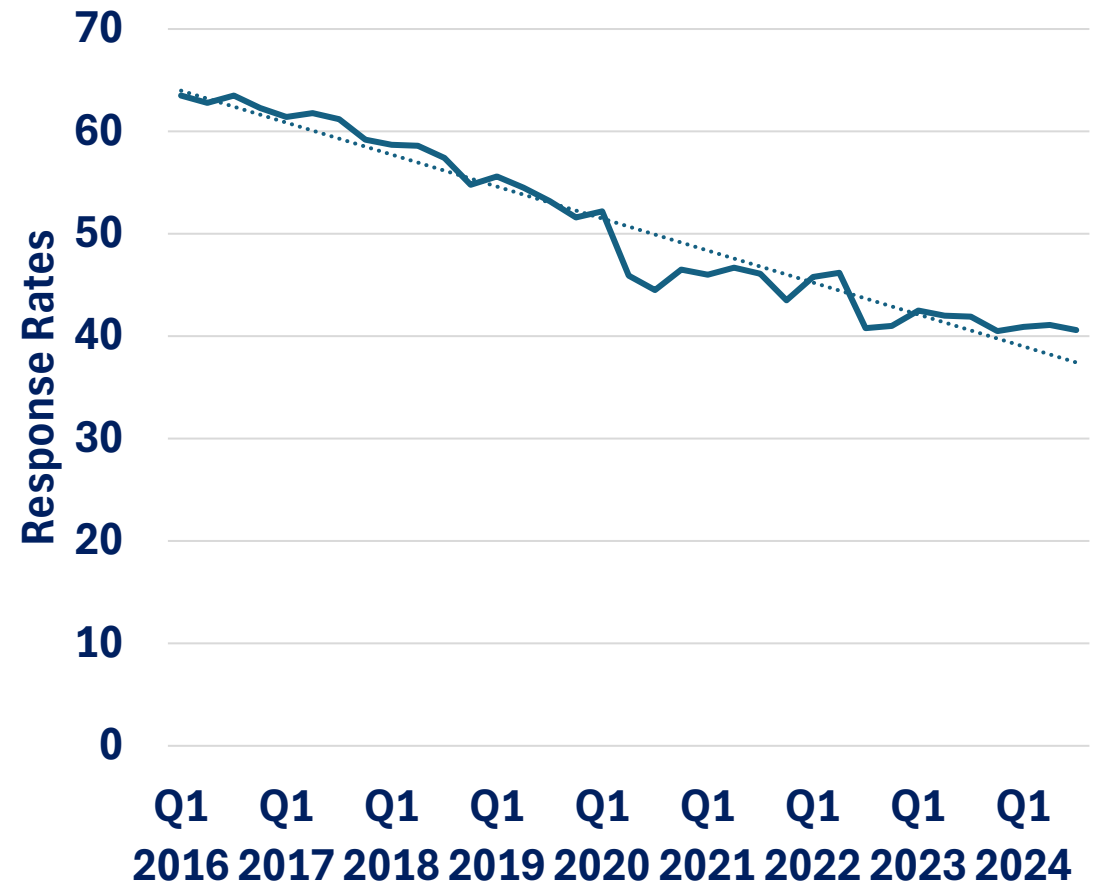
- Response rates in the interview differed by 1.1 percentage points between the periods.

Interview Outcomes for Eligible Cases	Complete	Nonresponse		
		4 th Wave No Follow-up	Contact Limit	All other
FY23 (N = 45,238)	41.9%	0%	0%	58.1%
FY24 (N = 45,716)	40.8%	9.3%	4.3%	45.6%



Interview Survey: Response Rates

- The pre-existing trend in this series suggests that the response rate drop in FY24 was not unique, but rather a continuation of the overall downward trend in Interview Survey response rates.

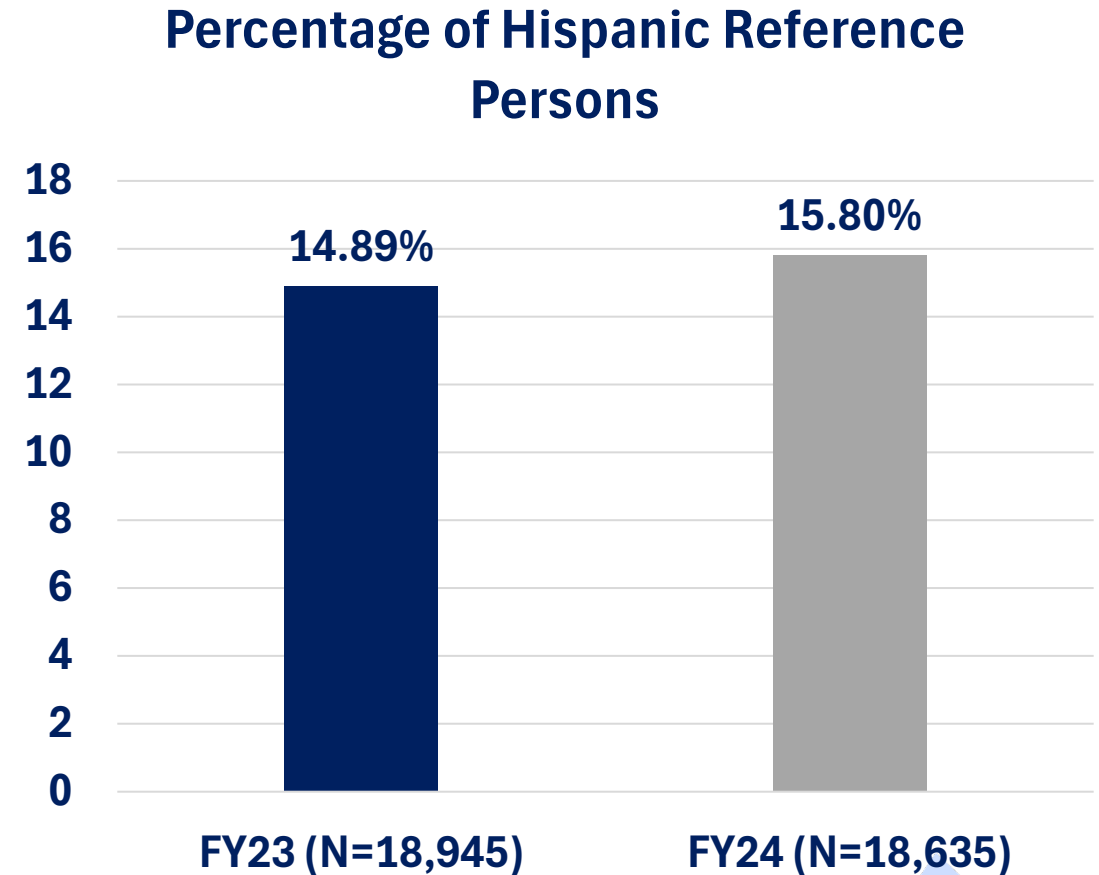


Interview Survey Data Quality

- Components of CE Interview Survey Data Quality examined:
 - ▶ Demographic composition
 - ▶ Recall aide use (i.e., expenditure records and information booklet)
 - ▶ Expenditure editing
 - ▶ Survey mode
 - ▶ Expenditure totals

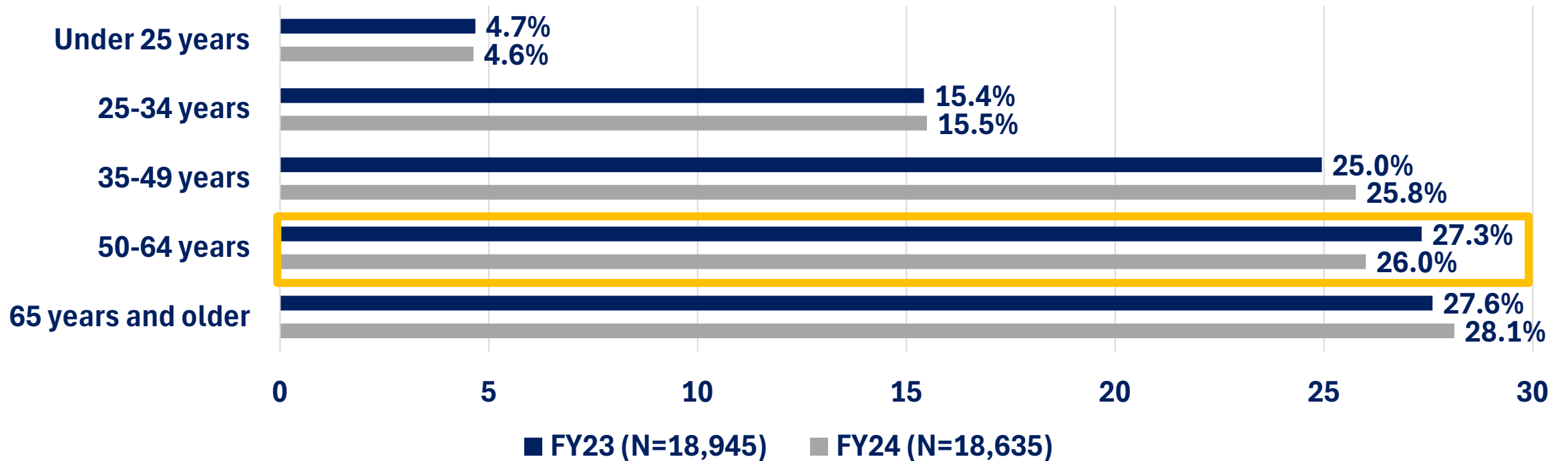
Interview Survey: Demographic Composition

- Two differences identified in demographic composition



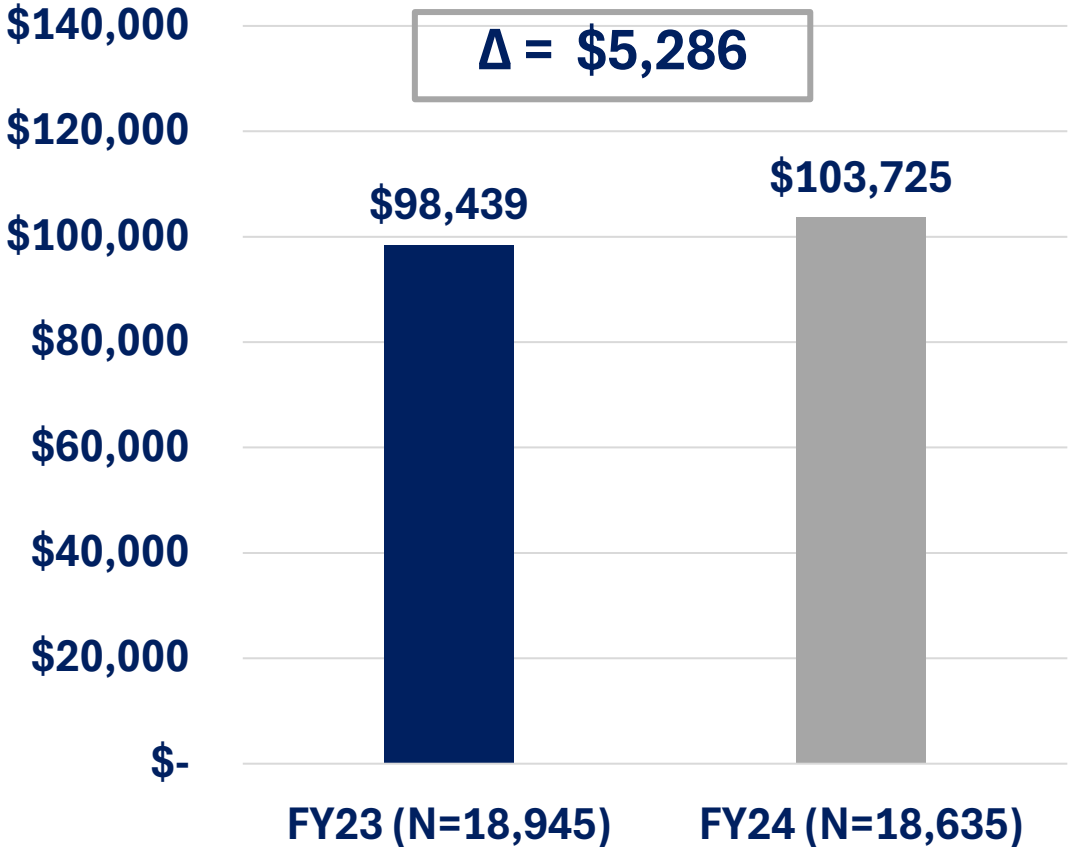
Interview Survey: Demographic Composition

Percentage of Reference Persons by Age Group

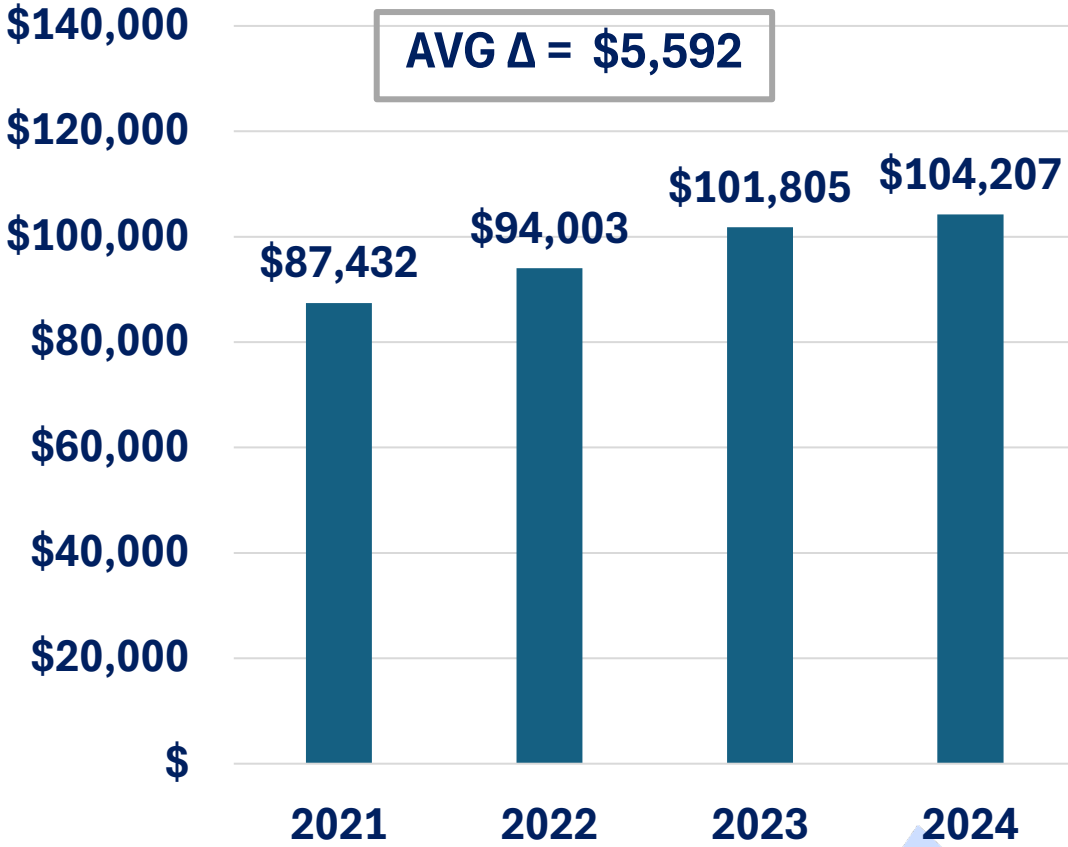


Interview Survey: Income and Spending

Mean Income Before Tax

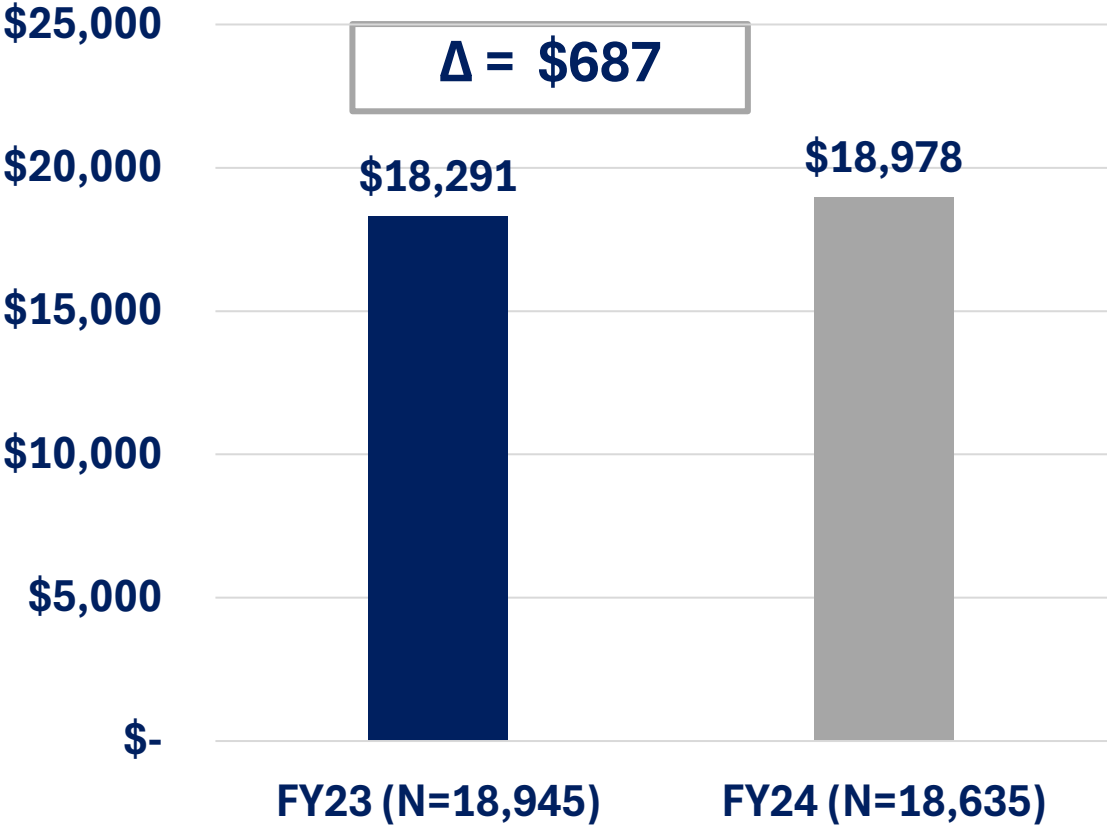


CE Published Annual Income by Year



Interview Survey: Income and Spending

Mean Quarterly Spending

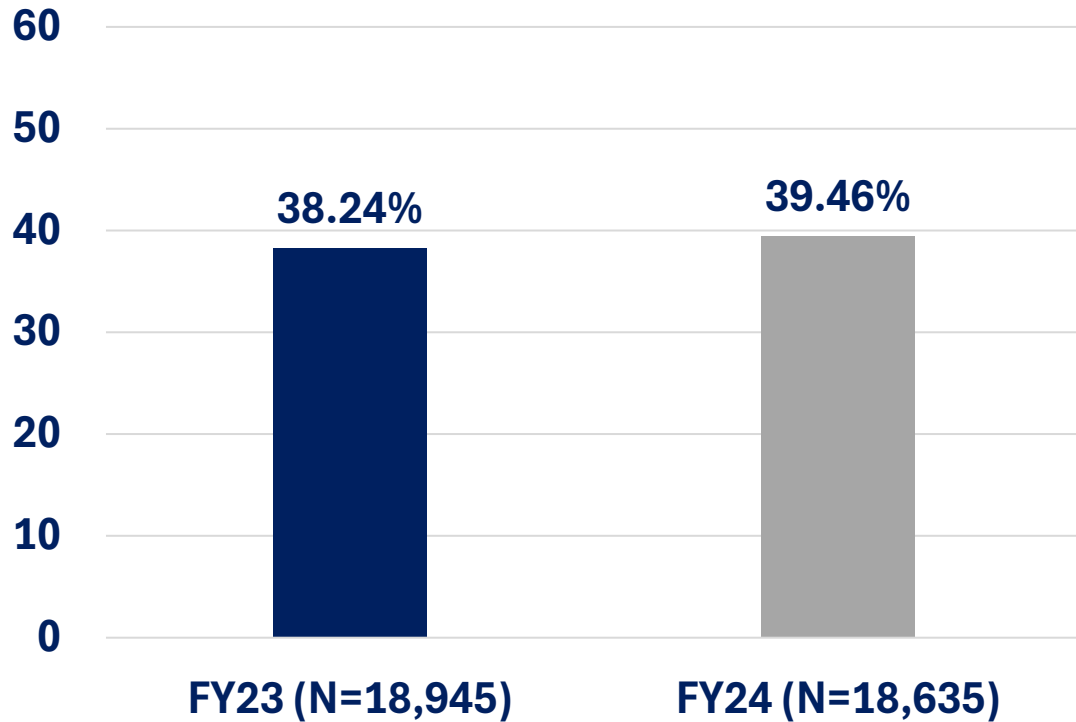


CE Published Quarterly Spending by Year

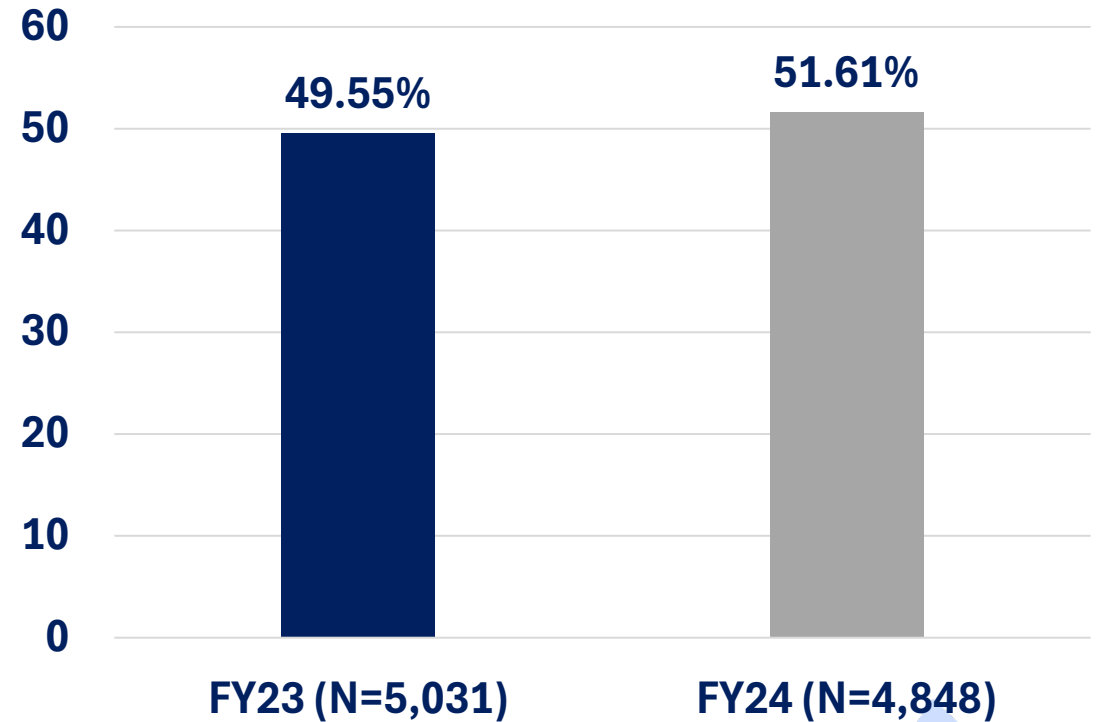


Interview Survey: Survey Mode

Percent of In-Person Interviews for ALL Waves



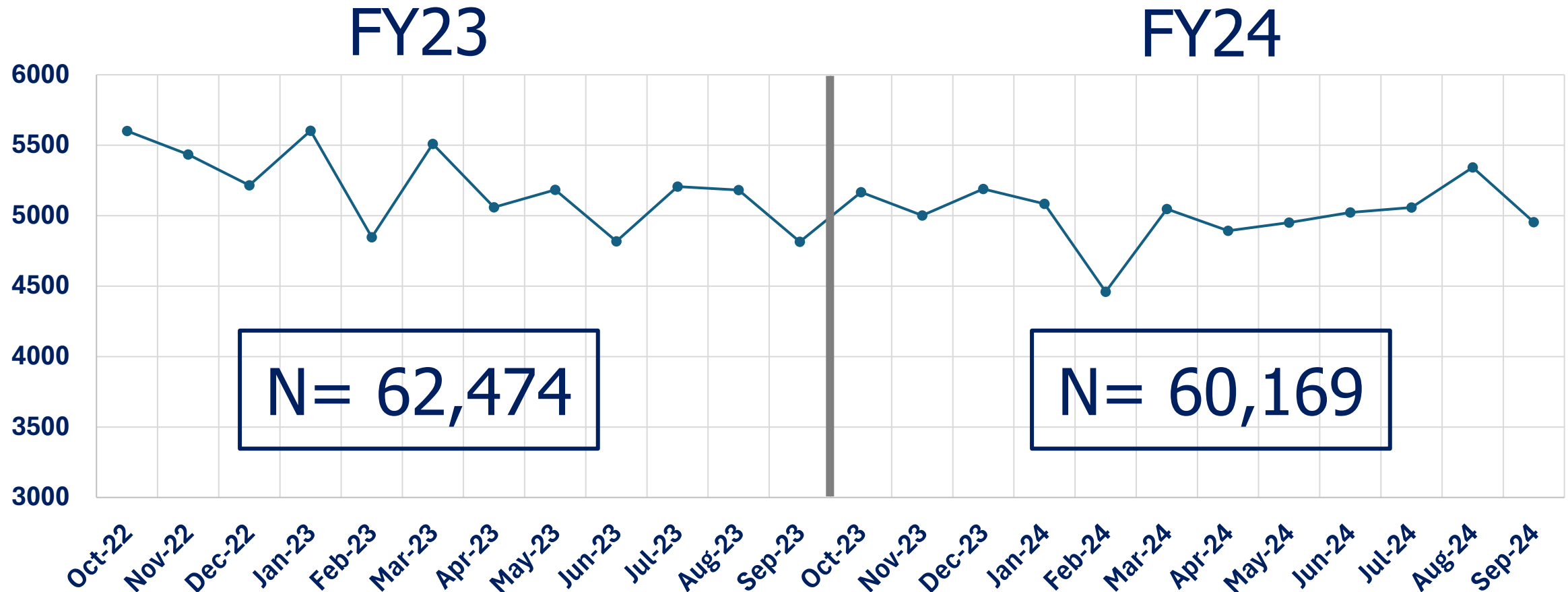
Percent of In-Person Interviews for Wave 1



Diary Survey Analysis

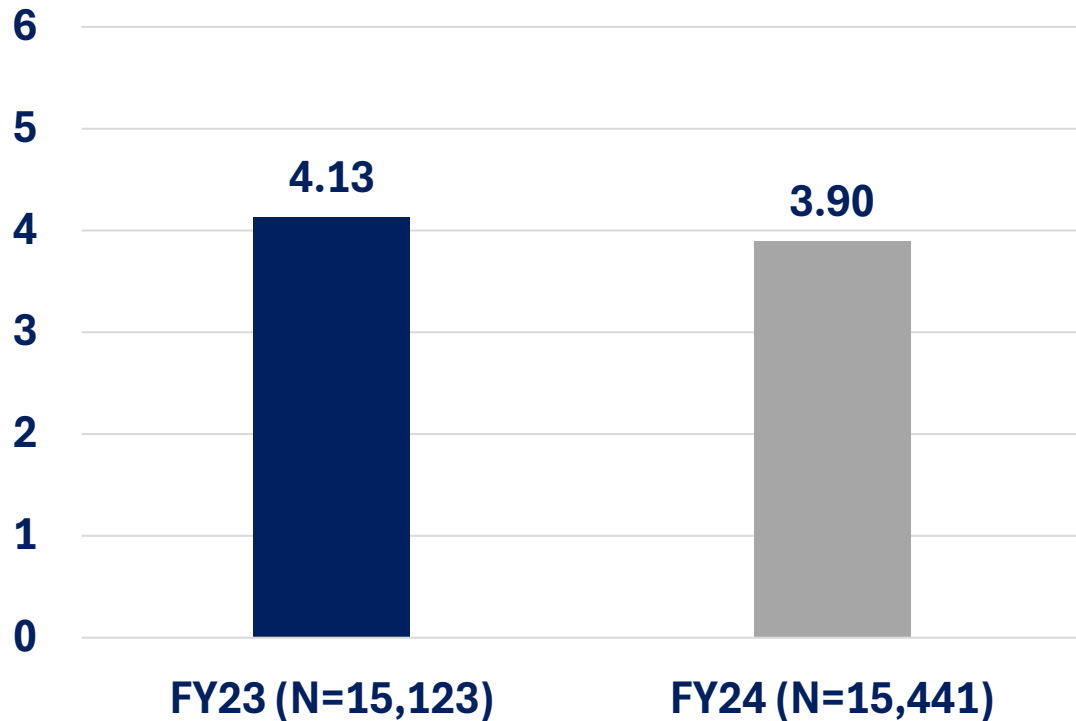


Diary Survey: Qualifying Contact Attempts

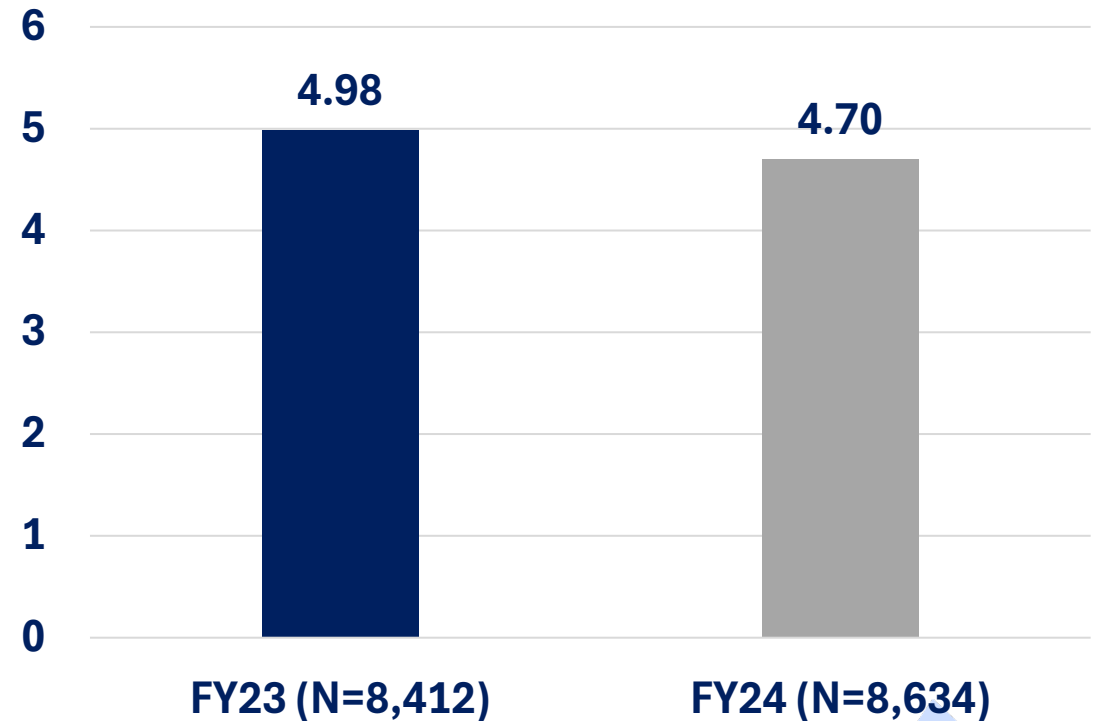


Diary Survey: Contact Attempts per Household

Contact Attempts per Household (ALL CASES)



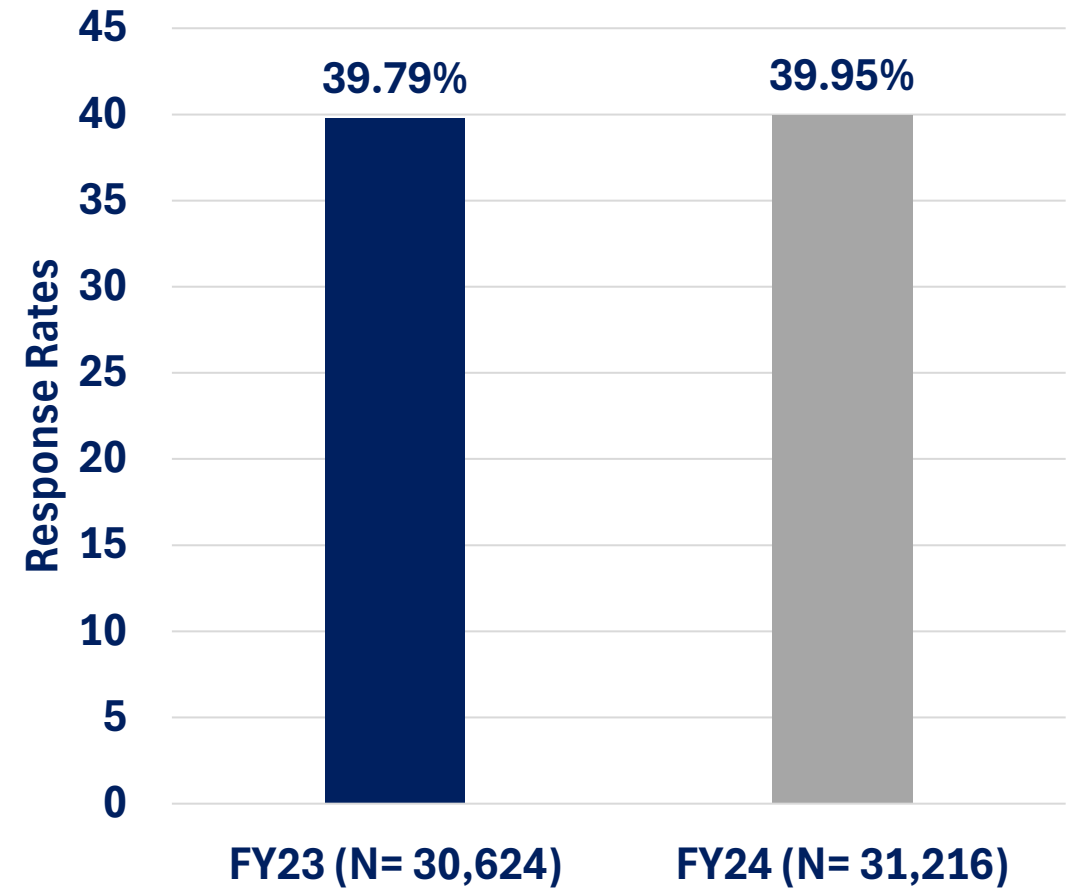
Contact Attempts per Household (TYPE-A)



Diary Survey: Response Rates

- Response rates in the diary differed by 0.18 percentage points between the periods.
- Contact limit cases mostly offset by Type-A drop.

Diary Outcomes for Eligible Cases	Complete	Nonresponse	
		Contact Limit	All other
FY23 (N = 30,624)	39.95%	0%	60.05%
FY24 (N = 31,216)	39.79%	4.56%	55.65%

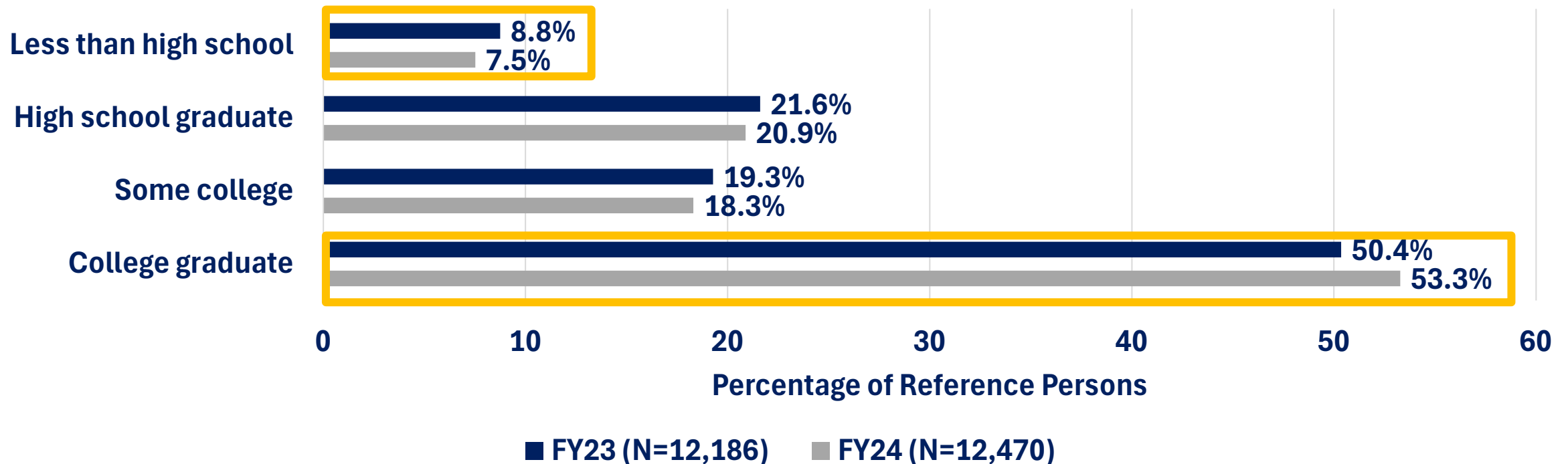


Diary Survey: Data Quality

- Components of CE Interview Survey Data Quality examined:
 - ▶ Demographic composition
 - ▶ Information booklet use
 - ▶ Expenditure editing
 - ▶ Diary mode
 - ▶ Expenditure totals
 - ▶ Expenditure counts

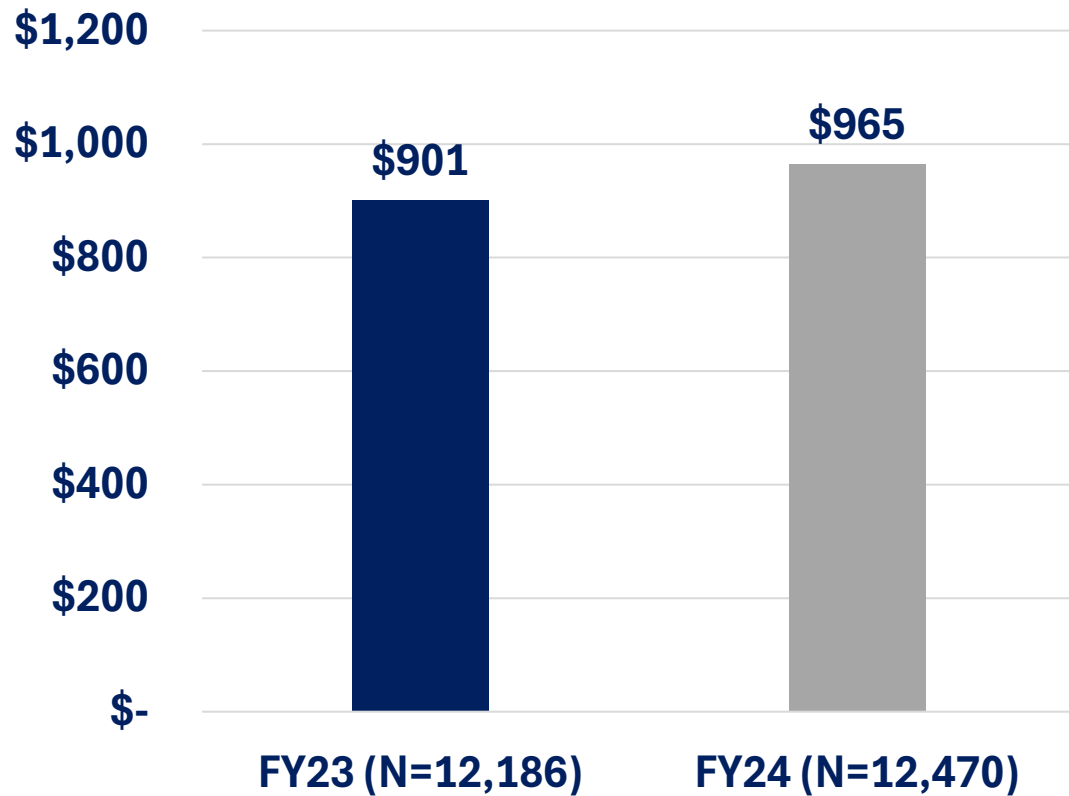
Diary Survey: Demographic Composition

Education of Reference Persons

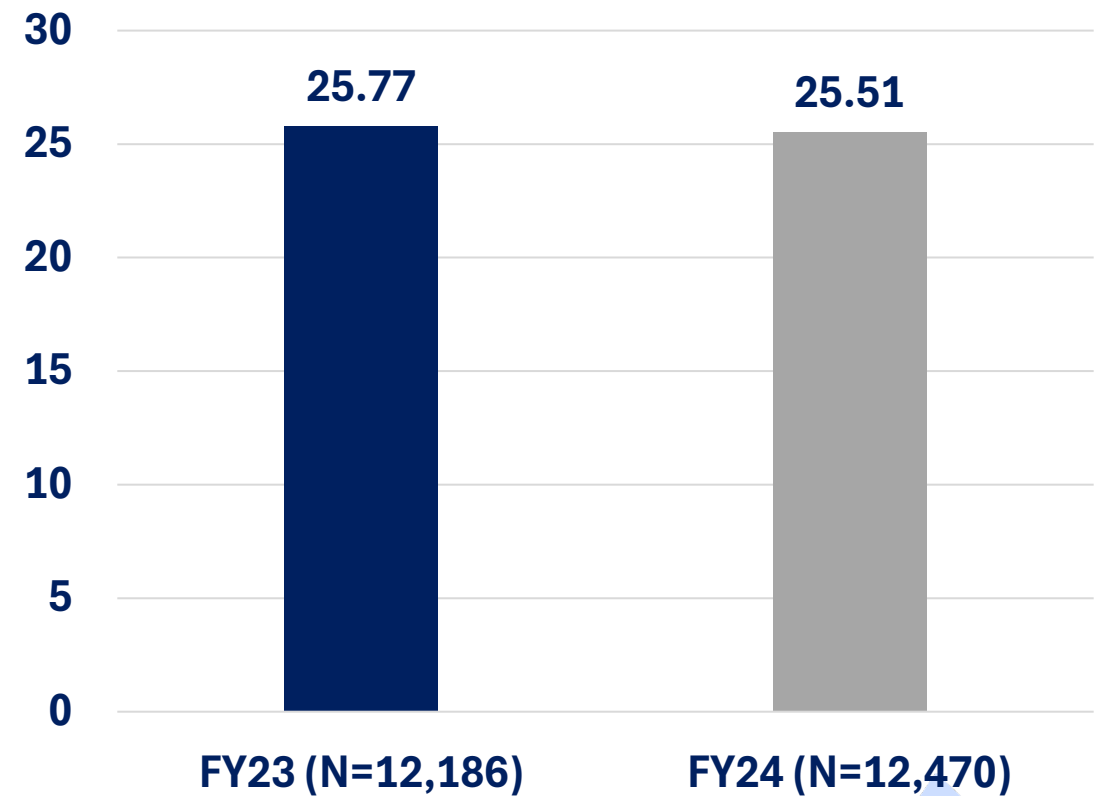


Diary Survey: Data Quality

Mean Expenditure Total



Mean Expenditure Count









Takeaways and Next Steps



Main Takeaways

- In both surveys, total qualifying contacts attempts decreased from FY23 to FY24.
- Some evidence of increased contact attempt efficiency (per household) from FY23 to FY24.
- No evidence of a decrease in data quality.

Resource Optimization Questions	CE Interview Survey	CE Diary Survey
Decrease Costs?		
Contact Efficiency?		
Maintain Quality?		



Next Steps

- More in-depth analysis around data quality.
- Analysis of the impact on our weighting.
- Non-response bias report.



Thanks for listening!

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