Evaluating Quality in CE's Proof of Concept Test

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Outline

- Brief Background – CE Redesign (Gemini Project)
- Test Design
- High Level Results and Sample Analysis
- Data Quality
  - Recall and Records Interviews
  - Diaries
- The Good, the Bad, the Unknown…
- Next Steps

What is the Gemini Project?

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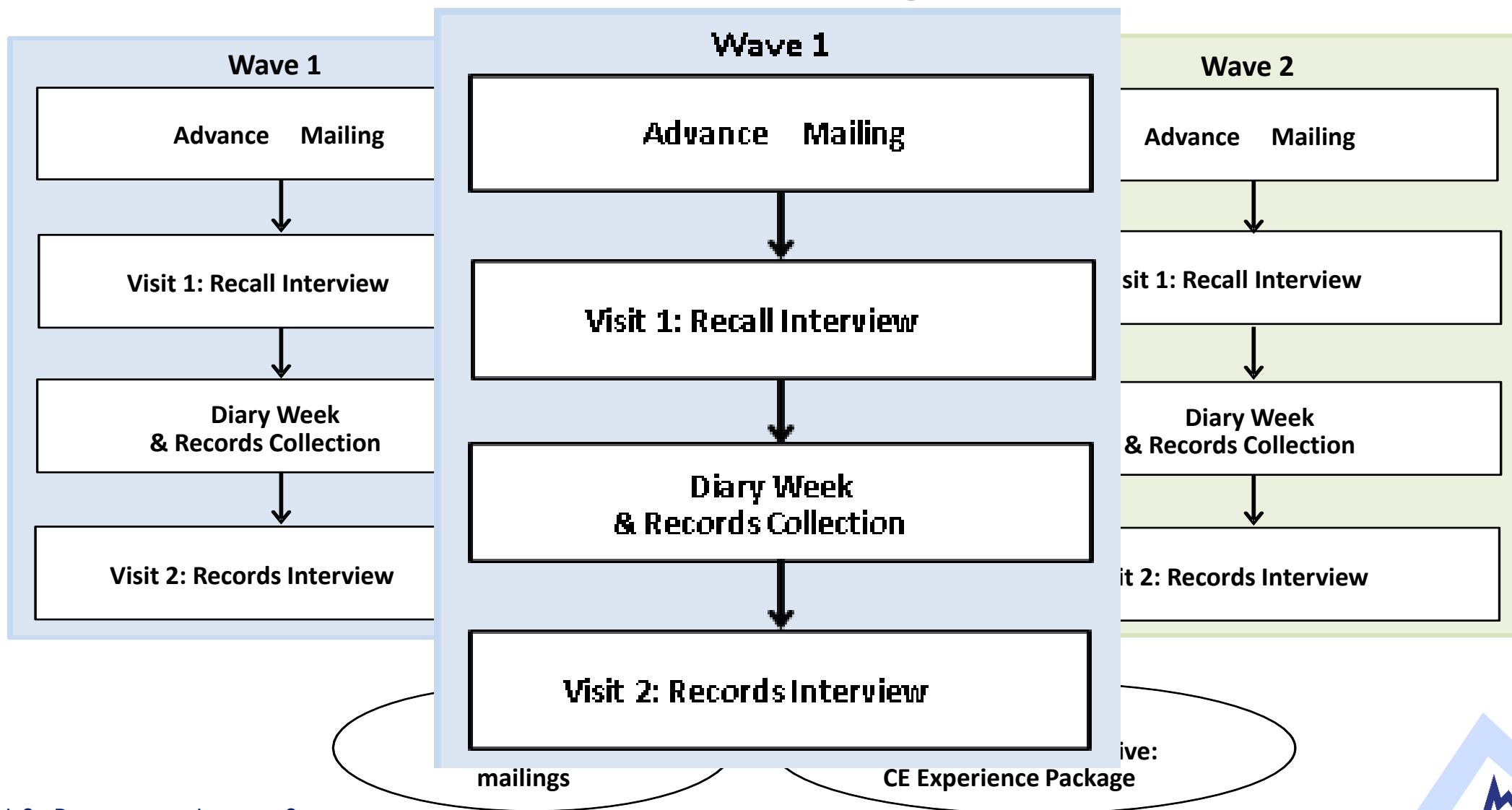
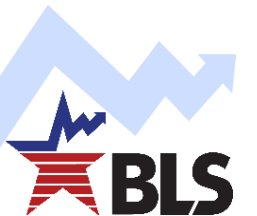# Test Design

Proof-of-Concept (POC) Test

- Fielded July 2015 – Sep 2015

- Atlanta, Chicago, Denver, and New York Census Regional Offices

- Ensure that the basic underlying structure and components of the new design are feasible

- Designed to mirror the proposed design to the fullest extent possible

Gemini Redesign Plan

High Level Results and Sample Analysis

Final Response

	N - complete	Response Rate (%)
Test	520	49.8
Control – CEQ (All waves)	1483	62.9
Control – CEQ (Wave 1)	365	64.4
Control – Diary	645	58.6

Sample Characteristics

	Test (N=520)	Control – CEQ (N=1483)	Control – Diary (N=315)
Race of Respondent			
White	82.5	79.2	73.0
Black	11.9	15.0	12.1
Other	5.4	5.8	5.7
Hispanic Origin of Respondent	10.8	12.1	9.8
Gender of Respondent			
Female	54.8	54.2	47.6
Male	45.0	45.9	43.2
Age of Respondent			
Under 25 years	6.7	5.0	5.4
25-34 years	16.4	17.1	15.6
35-49 years	29.4	25.8	22.9
50-64 years	26.4	18.8	24.8
65 years and older	21.0	23.5	22.2

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Sample Characteristics

	Test (N=520)	Control – CEQ (N=1483)	Control – Diary (N=315)
Education			
Less than high school	7.5	8.3	7.3
High school grad	21.9	21.0	16.2
Some college	31.9	29.8	23.9
College grad	38.5	40.9	43.5
Household Size			
Single person	30.4	30.8	34.9
2-3	46.2	47.9	45.1
4+	23.5	21.3	20.0
Housing Tenure			
Renter	41.0	37.0	36.8
Owner	59.0	63.0	63.2

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Sample Characteristics

Income			
	N	**Average**	**Median**
Test	520	$71,526	$45,404
Control-CEQ	1483	$66,666	$43,459
Control-CED	283	$74,057	$50,000

No significant differences.

Data Quality
– Recall and Records Interviews

Total Expenditures – Records and Recall

|	N	Average	Median
Test	520	$10,784	$7,457
Control-CEQ	1483	$10,157	$7,334

Model of log (interview expenditure totals) by sample condition and associated covariates (n=1,997)

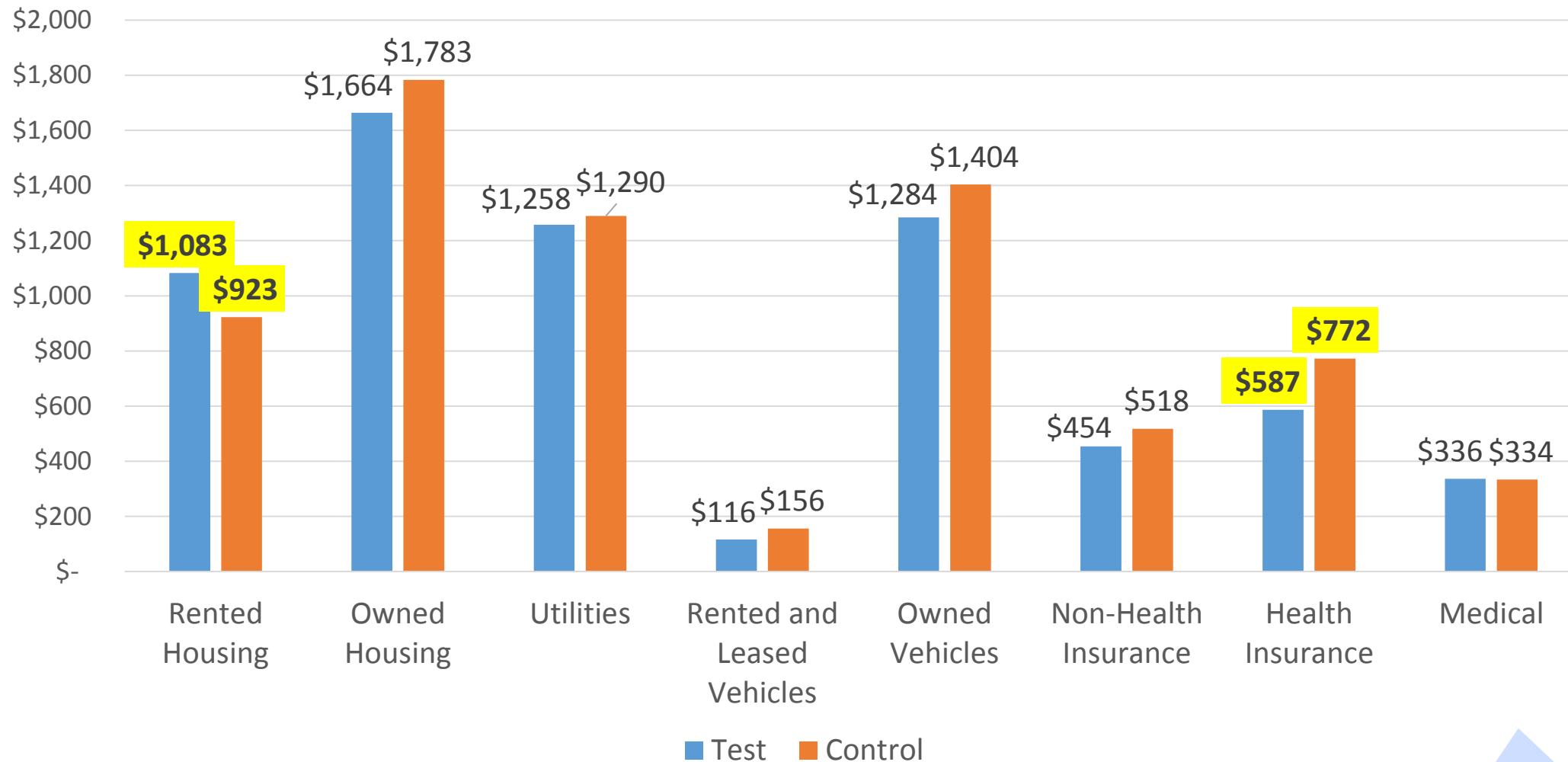|	Coefficient	Standard Error
Intercept	8.035	(0.082)
Income	0.391***	(0.018)
Multi-member CU	0.343***	(0.038)
Homeowner	0.133***	(0.036)
POC CU	-0.036	(0.040)
Education Level	0.150***	(0.017)
Race of Respondent	-0.186***	(0.041)
At Least Some Record Use	0.146***	(0.036)
All Valid Blanks	-0.779***	(0.076)
Model R^2	0.454	

Visit 1 - Recall Expenditures
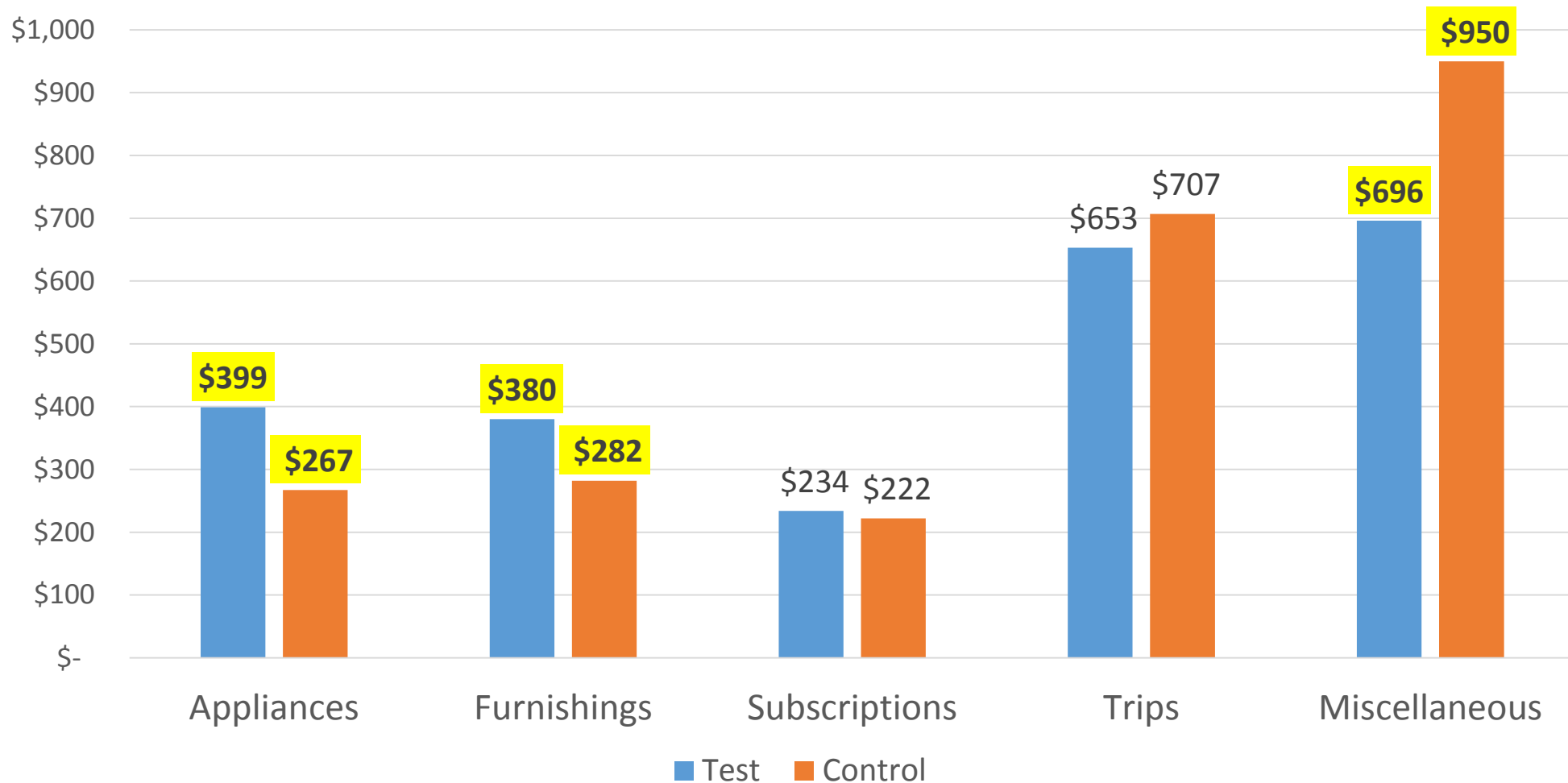
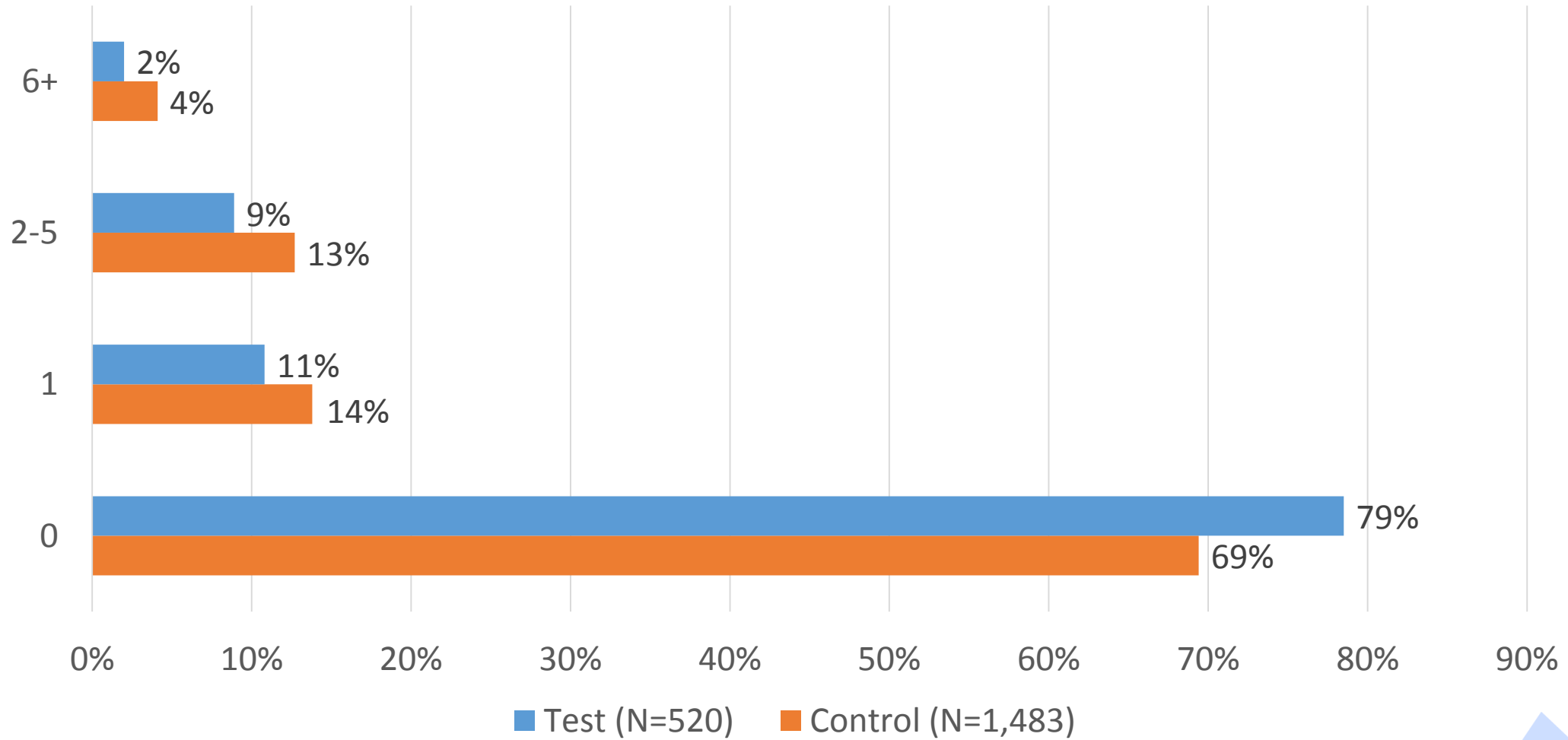Highlighted labels indicate significant difference between the test and control using a Wilcoxon-Z test statistic
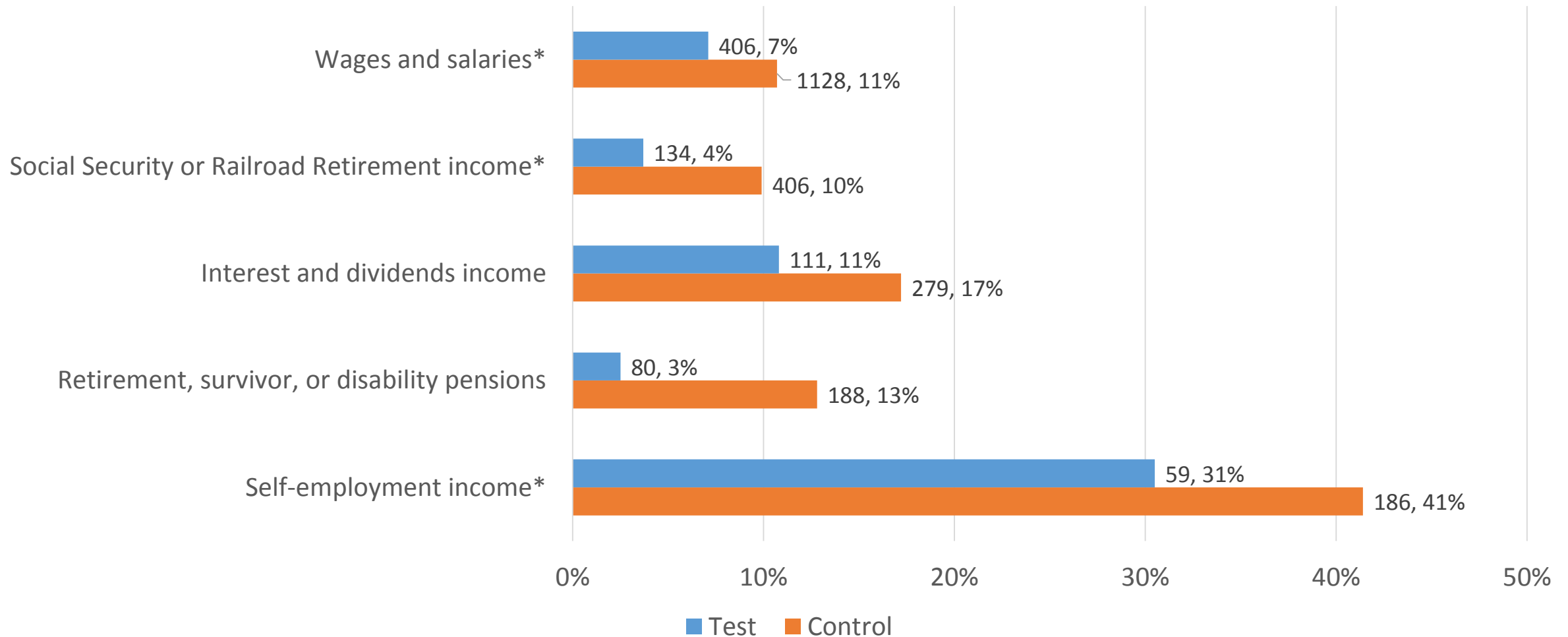
Visit 2 - Records Expenditures

Category	Test	Control
Rented Housing	$1,083	$923
Owned Housing	$1,664	$1,783
Utilities	$1,258	$1,290
Rented and Leased Vehicles	$116	$156
Owned Vehicles	$1,284	$1,404
Non-Health Insurance	$454	$518
Health Insurance	$587	$772
Medical	$336	$334

■ Test ■ Control

Highlighted labels indicate significant difference between the test and control using a Wilcoxon-Z test statistic

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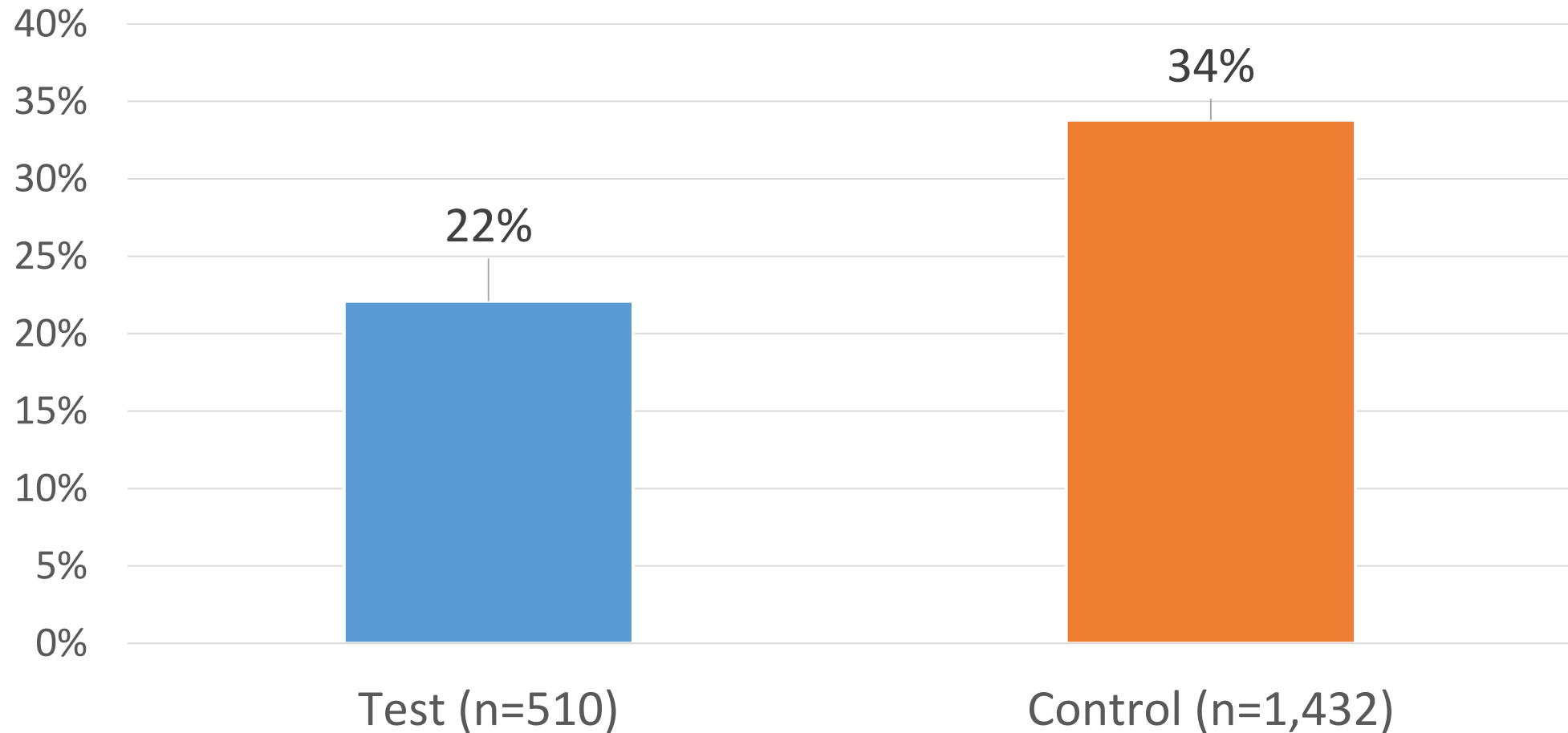# Distribution of Number of Don't Knows for Expenditures

Horizontal bar chart comparing Test (N=520) and Control (N=1,483):

- 6+: Test 2%, Control 4%
- 2-5: Test 9%, Control 13%
- 1: Test 11%, Control 14%
- 0: Test 79%, Control 69%

■ Test (N=520)   ■ Control (N=1,483)

Percent missing income for top five sources

Wages and salaries*
- Test: 406, 7%
- Control: 1128, 11%

Social Security or Railroad Retirement income*
- Test: 134, 4%
- Control: 406, 10%

Interest and dividends income
- Test: 111, 11%
- Control: 279, 17%

Retirement, survivor, or disability pensions
- Test: 80, 3%
- Control: 188, 13%

Self-employment income*
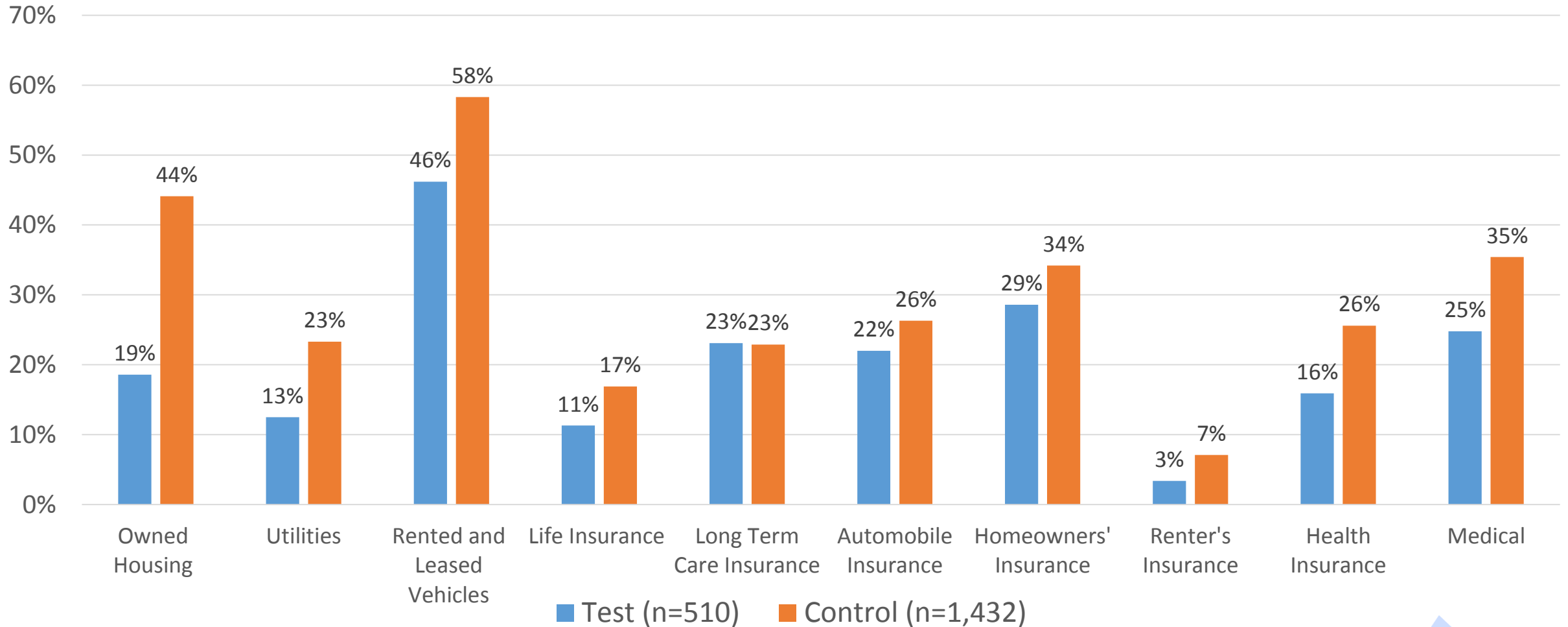- Test: 59, 31%
- Control: 186, 41%

■ Test ■ Control

❖ The asterix indicates that all members of the CU reported a missing value
❖ The data label includes total number reported and percent missing

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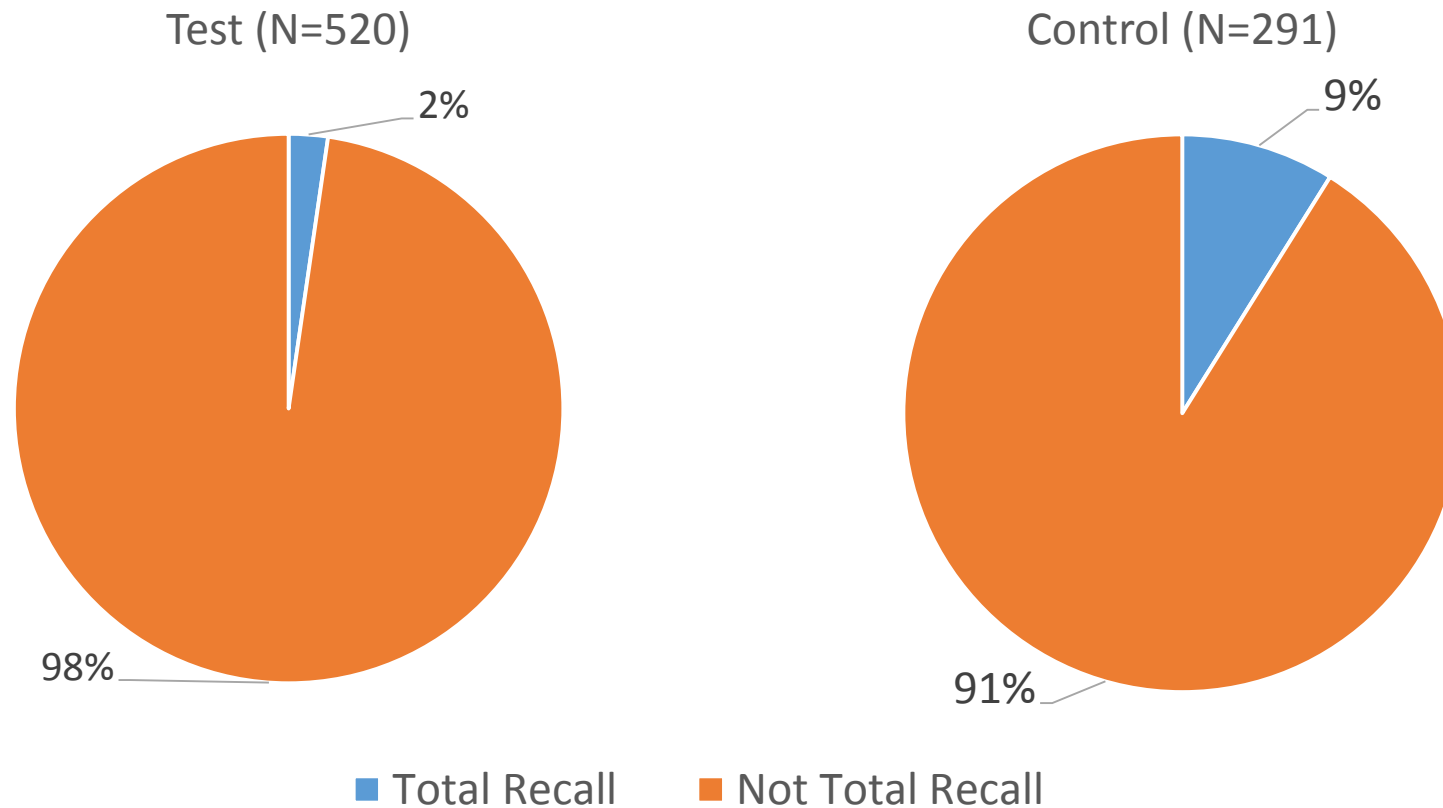# HH Average Percent of Rounded Expenditure Responses

HH Average Percent of Rounded Expenditure Responses by Question

Test (n=510)   Control (n=1,432)
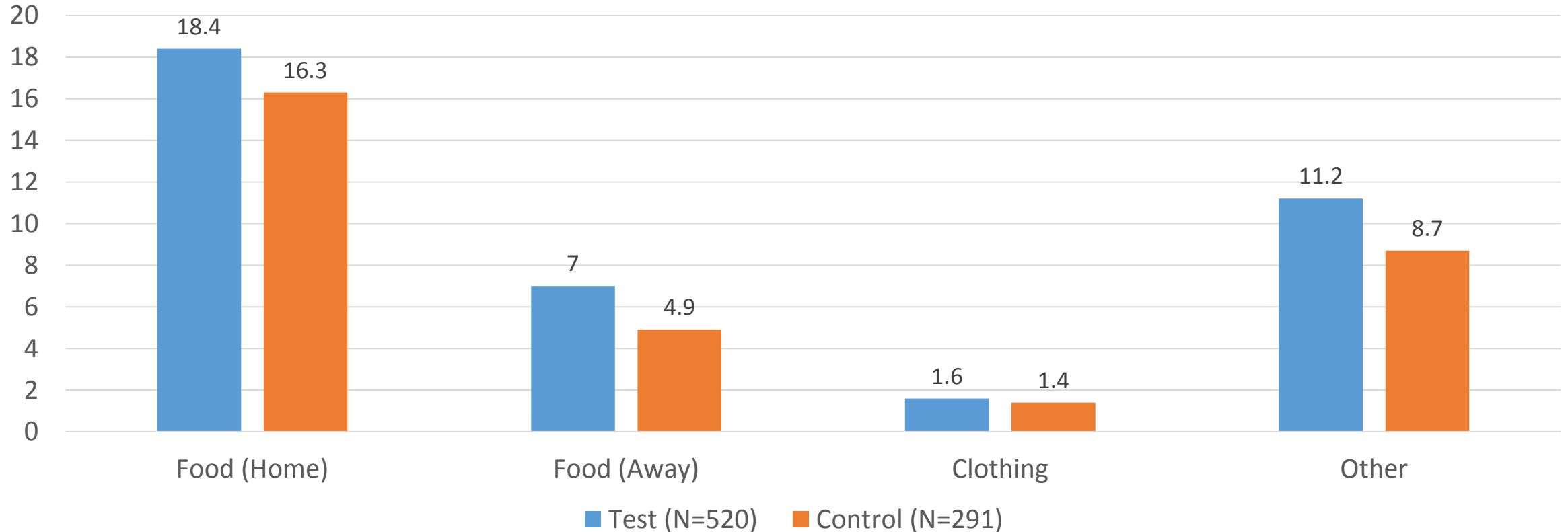
Category	Test	Control
Owned Housing	19%	44%
Utilities	13%	23%
Rented and Leased Vehicles	46%	58%
Life Insurance	11%	17%
Long Term Care Insurance	23%	23%
Automobile Insurance	22%	26%
Homeowners' Insurance	29%	34%
Renter's Insurance	3%	7%
Health Insurance	16%	26%
Medical	25%	35%

Data Quality - Diaries

Extent of Total Recall

Test (N=520)

2%

98%

Control (N=291)

9%

91%

■ Total Recall   ■ Not Total Recall

Number of HH Diary Entries

Diary Expenditures

Test (N=508) Control (N=259)

Category	Test	Control
Food (Home)	$110	$112
Food (Away)	$81	$75
Clothing	$43	$51
Other	$861	$798
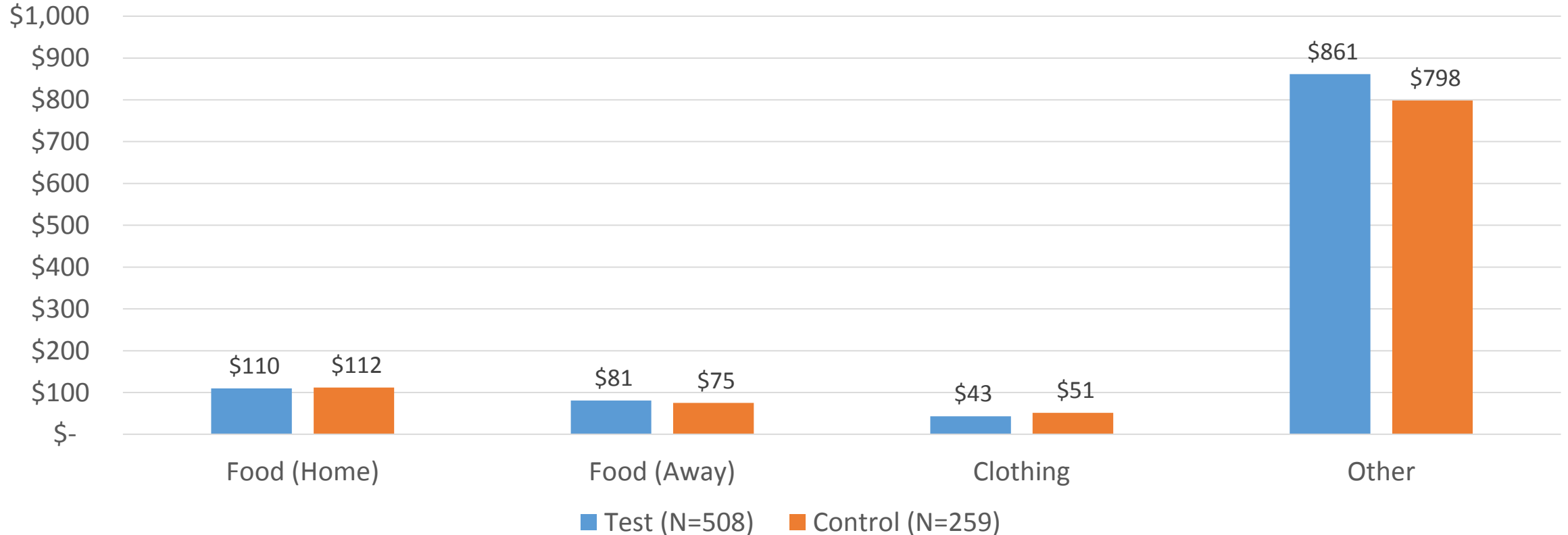
The Good, the Bad, the Unknown…

The Good

- No decrease in expenditures

- Higher number of diary entries

- Less item non-response (income and expenditures)

- More accurate reports (less rounding)

The Bad (or "not so good")

- Final response rates low – only 50% complete all 3 parts of the interview
- Interview length is long, particularly for the 2nd visit

The Unknown

- Would we see statistical differences with a larger sample size? (Expenditures, Income)
- Would HHs participate in Wave 2?
- Would finalized question content, tweaked protocols, and a new diary instrument improve results?
- Did the Incentives bias the sample towards renters?

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Next Steps

- Large Scale Feasibility Test (tentatively 2019)
  - Larger sample sizes (2,000 completes)
  - Two waves tested
  - Finalized instruments and questions
  - Increased incentives

Contact Information

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