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# AMEREN ILLINOIS COMPANY INCOME-QUALIFIED PARTICIPANT NON-ENERGY IMPACTS

SAG NEI Working Group Presentation

October 4, 2023



# Introduction

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## Evaluate participant non-energy impacts (NEIs) from participation in the Ameren Illinois Income Qualified (IQ) Initiative

- Single Family Core Channel
  - Serves households with incomes <300% of the federal poverty line
  - No-cost energy audits; identify building shell/HVAC retrofit opportunities
  - Direct-install (DI) measures and additional retrofits, in some cases with a copayment
- Estimate health, safety, comfort, and economic metrics
  - HVAC and/or insulation upgrades

# Research Topics

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- Household characteristics (household income, ownership, etc.)
- Concerns about paying energy bills
- Strategies to pay various household bills
- Building safety and indoor conditions
- Physical and mental health levels

# Methods

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- Quasi-experimental, pre-post design survey

Survey	Treatment Group (2021 participants) Respondents	Comparison Group (2019 participants) Respondents
Pre- & post-period	106	80

- Difference-in-difference analysis approach

*Change in NEI Metric Due to Initiative*

$$= (Treatment_{Post} - Treatment_{Pre}) - (Comparison_{Post} - Comparison_{Pre})$$

# Methods

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- Monetization of NEI Values
  - Significant difference-in-difference comparisons
  - Robust data sources



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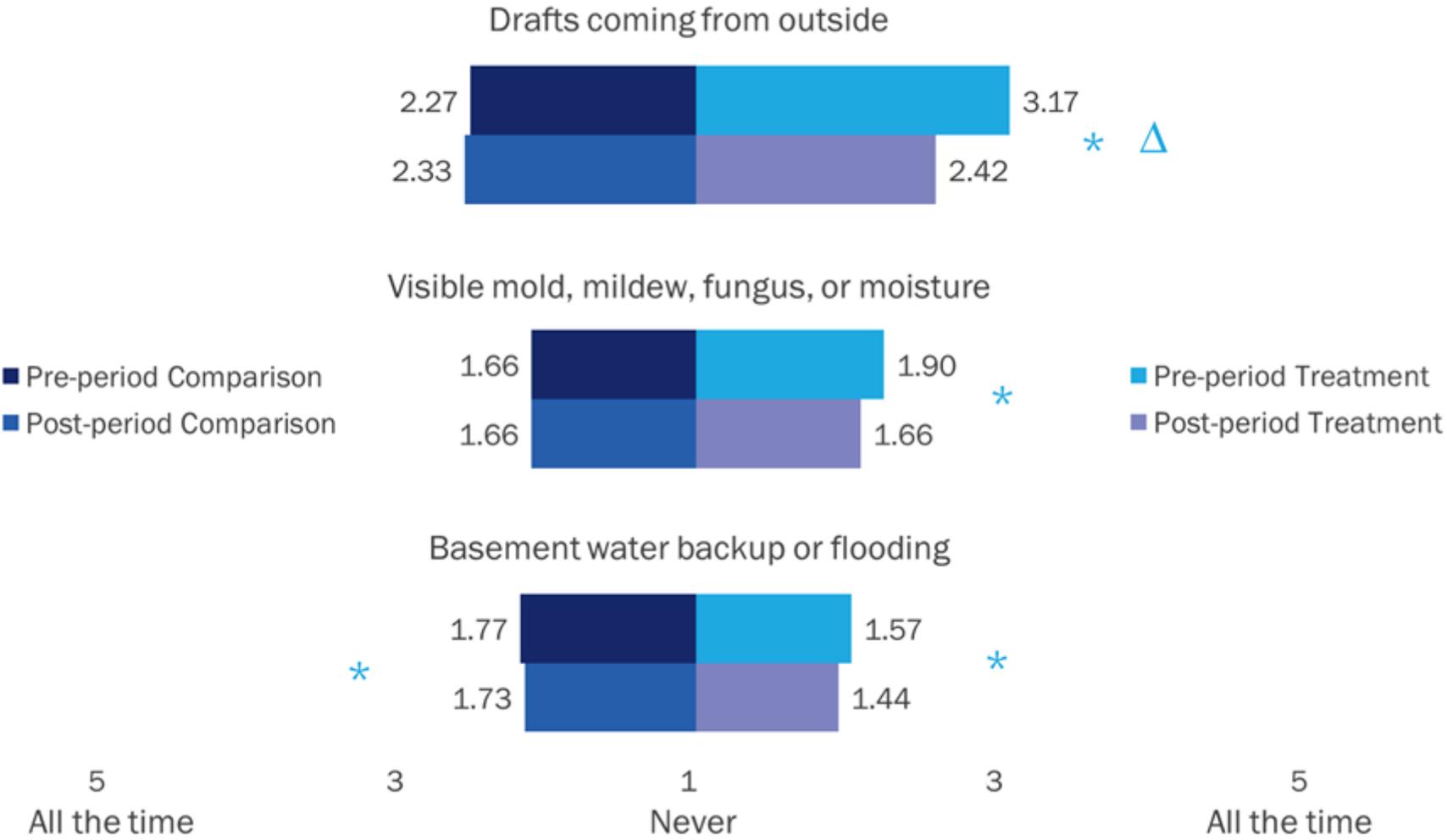
# PARTICIPANT NEI RESULTS



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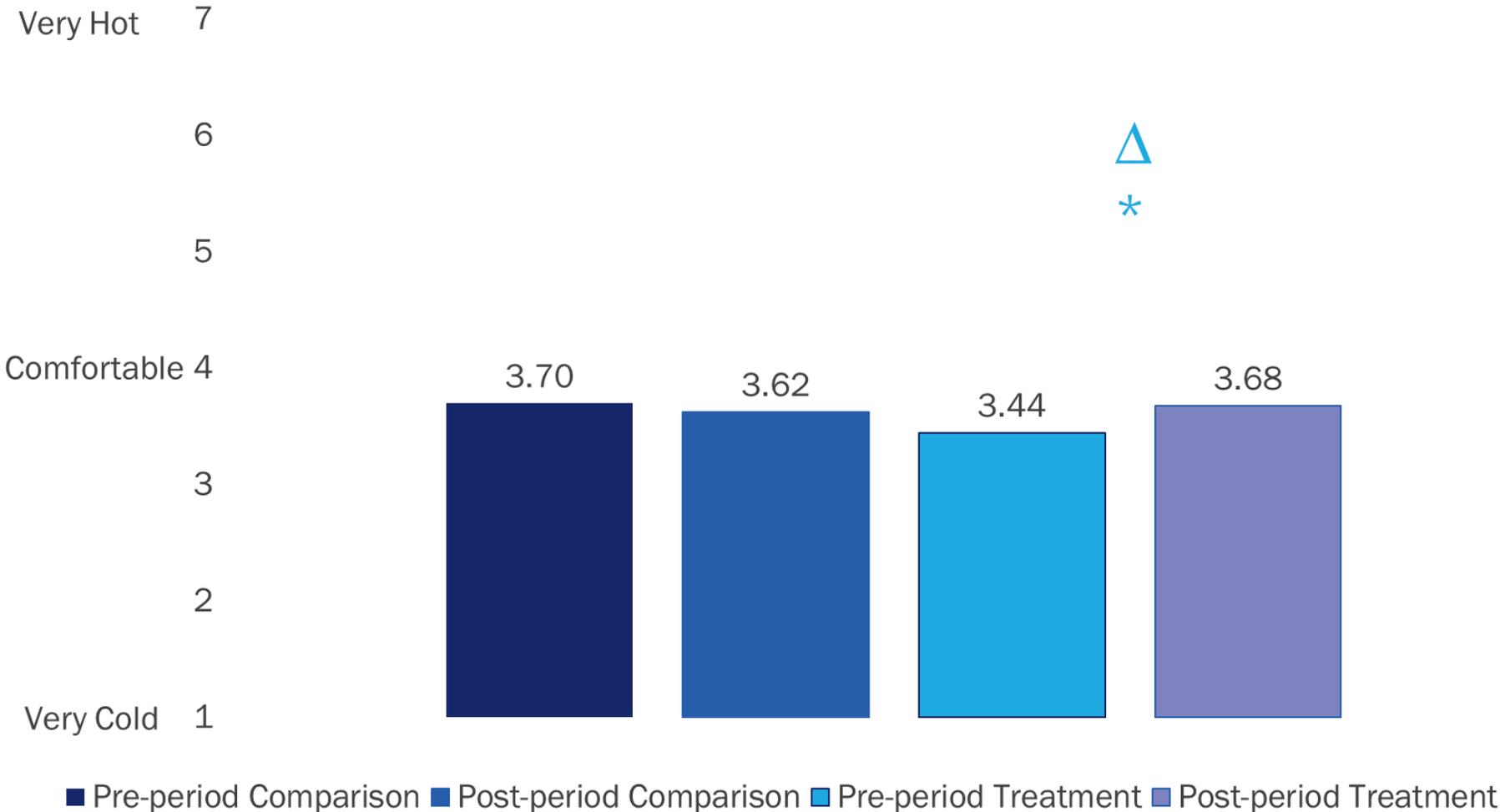
PARTICIPANTS EXPERIENCED HIGHER  
LEVELS OF HOME COMFORT

# Participants Experienced Improved Home Health, Comfort, & Safety



\* p < 0.10 across pre- and post-period  
 Δ p < 0.10 across treatment and comparison groups

# Participants Experienced More Comfortable Home Temperatures



\* p < 0.10 across pre- and post-period  
△ p < 0.10 across treatment and comparison groups

# Monetization Methods of Thermal NEIs

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## Monetization of Thermal NEIs

$$\begin{aligned} & \textit{Thermal NEI}_{\text{total}} \\ &= N * \Delta \textit{NEI}_{\textit{Thermal}} * ((\% \textit{Uninsured} * \textit{Cost}) + ((1 - \% \textit{Uninsured}) * \textit{Copay})) \end{aligned}$$

Where:

- $N$  - total number of participating households
- $\Delta \textit{NEI}_{\textit{Thermal}}$  - share of households with less medical visits
- $\% \textit{Uninsured}$  - share of the Illinois population without medical insurance
- $\textit{Cost}$  - average cost for a doctor's visit in Illinois
- $\textit{Copay}$  - average co-pay for Illinois population with medical insurance



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THE MONETIZATION OF MEDICAL COST  
REDUCTIONS DUE TO REDUCED THERMAL  
STRESS COULD NOT BE FOUND

## With this approach, the monetizable value could not be found.

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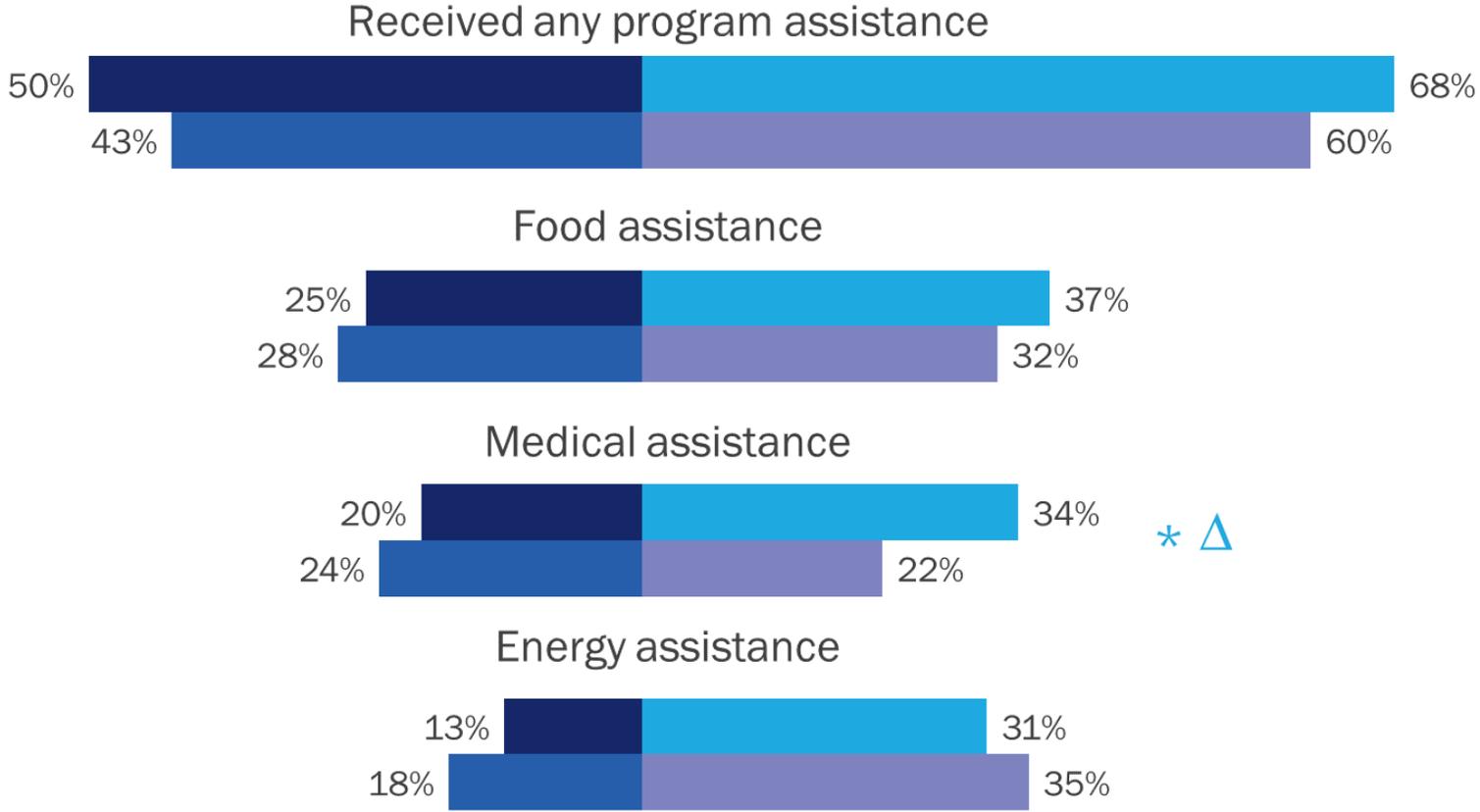
- No significant change was found for  $\Delta NEI_{Thermal}$ , as defined by the *share of households with medical visits due to thermal stress in the winter or due to cold and flu symptoms.*



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# PARTICIPANTS USED LESS MEDICAL PAYMENT ASSISTANCE

# Participants Used Less Assistance Programs During Past Year



■ Pre-period Comparison ■ Post-period Comparison ■ Pre-period Treatment ■ Post-period Treatment

\* p < 0.10 across pre- and post-period

△ p < 0.10 across treatment and comparison groups

# Monetization Methods of Avoided Medical Payment Assistance

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## Monetization of Medical Payment Assistance

*Medical Benefits<sub>period</sub>*

$$= (Avg\ Spending_{NoMC} - Avg\ Spending_{MC}) * Avg\ Household\ Size * N * \%HH$$

Where:

- *Avg Spending<sub>NoMC</sub>* = total medical expenses for those without Medicaid or Medicare
- *Avg Spending<sub>MC</sub>* = total medical expenses for those with Medicaid or Medicare
- *Avg Household Size* = average number of members living in the home
- *N* - total number of participating households
- *%HH* - percentage of respondents who used medical payment assistance



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PARTICIPANTS USED LESS FUNDS FROM  
PUBLIC MEDICAL PAYMENT ASSISTANCE

# Monetization Results of Avoided Medical Payment Assistance

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## Monetization of Medical Payment Assistance

*Medical Benefits<sub>period</sub>*

$$= (Avg\ Spending_{NoMC} - Avg\ Spending_{MC}) * Avg\ Household\ Size * N * \%HH$$

$$Medical\ Benefits_{pre-period} = \$86,895.33$$

$$Medical\ Benefits_{post-period} = \$54,120.99$$

## Monetization of Avoided Medical Payment Assistance

$$MPA\_NEI_{total} = Medical\ Benefits_{pre-period} - Medical\ Benefits_{post-period}$$

$$MPA\_NEI_{total} = \$32,774.35$$

$$MPA\_NEI_{per\ household} = \$16.28$$

# Conclusion

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- We quantified benefits for IQ participants by quantifying the avoided payment assistance needed to help pay for medical bills.
- NEI research provides a variety of actionable insights for utilities
  - Supports energy efficiency program planning
  - Promotes visibility of energy equity, accessibility, and reliability efforts
  - Demonstrates forward-thinking on health, environment, and water issues
  - Can be used as inputs to cost-effectiveness testing



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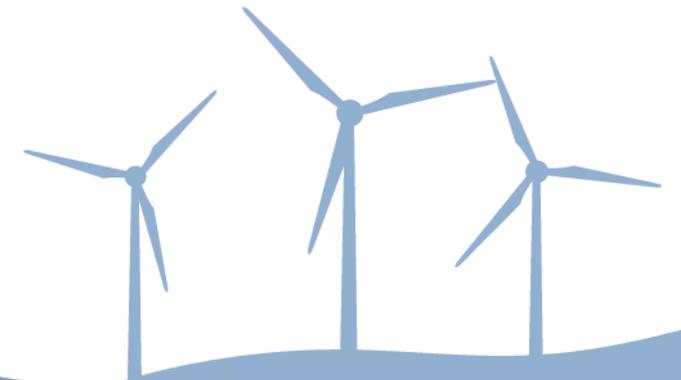
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