



NYC DOHMH
BUREAU OF EPIDEMIOLOGY SERVICES

Amber Levanon Seligson, Ph.D., M.S.

Assessing Bias from Address Based Sampling Frames in the Healthy NYC Survey Panel

Current Innovations in Probability-based Household
Internet Panel Research Conference
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Co-authors:

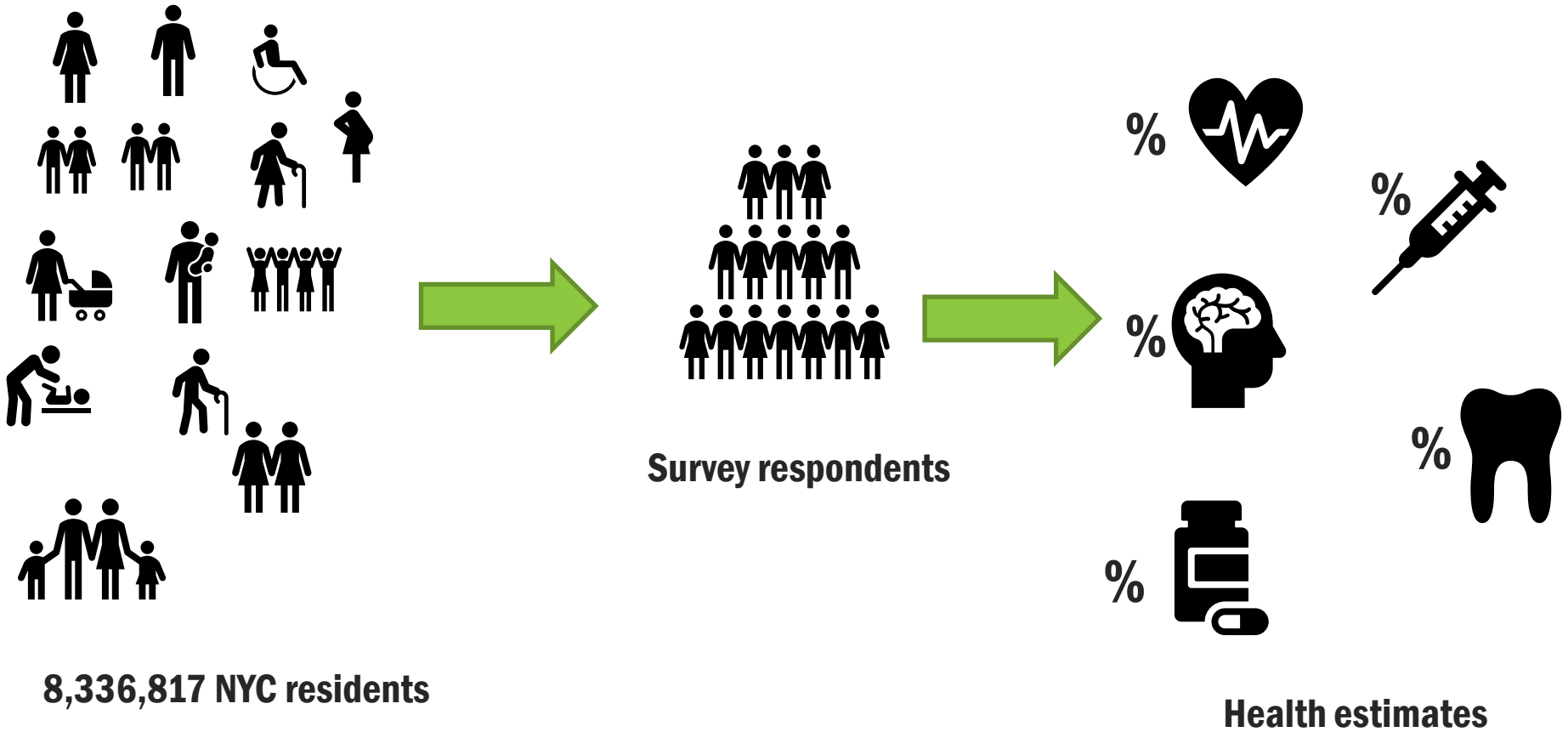
- Amber Levanon Seligson
- Aldo Crossa
- Jenny Tiberio
- Chunyi Xia
- Sharon E. Perlman



Background

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Representativeness as key goal in public health surveys



Longstanding NYC Health Department surveillance surveys

NYC KIDS

2017-present

- Ages 1-13
- Geographies

Middle School Youth Risk Behavior Survey

2018-present

- Public school students
- Grades 6-8
- Geographies

High School Youth Risk Behavior Survey

1997-present

- Public school students
- Grades 9-12
- Geographies

Community Health Survey

2002-present

- Ages 18+
- Borough
- Geographies



Methods

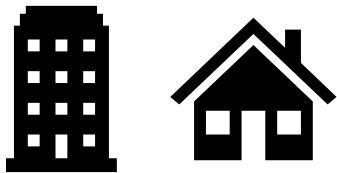
Healthy NYC Panel

- Sampling frames:
 - Address Based Sample
 - Participants in previous NYC Health Department surveys
- Survey invitation modes:
 - Postal letters
 - Email
 - Text
- Questionnaire modes:
 - Web
 - Phone
 - Pencil and paper



Address Based Sample Frame

- 60,000 addresses in June and September 2020
- Addresses randomly selected citywide from commercial sources and updated with US Postal Service information
- Auxiliary variables attached to each address:
 - mail-related features of the address
 - census tract demographics
 - household characteristics



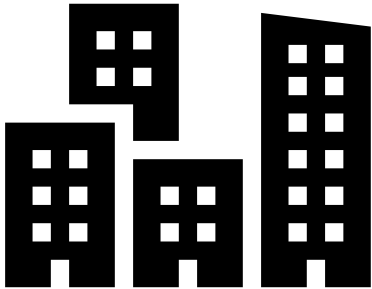
Analytic approach

- Were people who registered for Healthy NYC different than those who did not?
- Analyze auxiliary variables from ABS frame
- Chi-Square and t-tests to assess differences between respondents and non-respondents

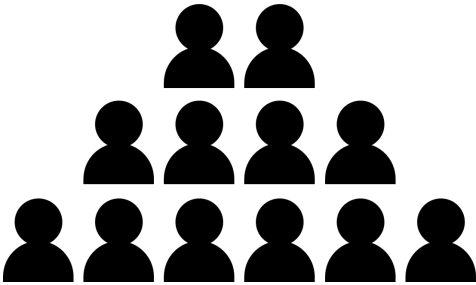


Results

Number of invited households in which an individual agreed to join the panel



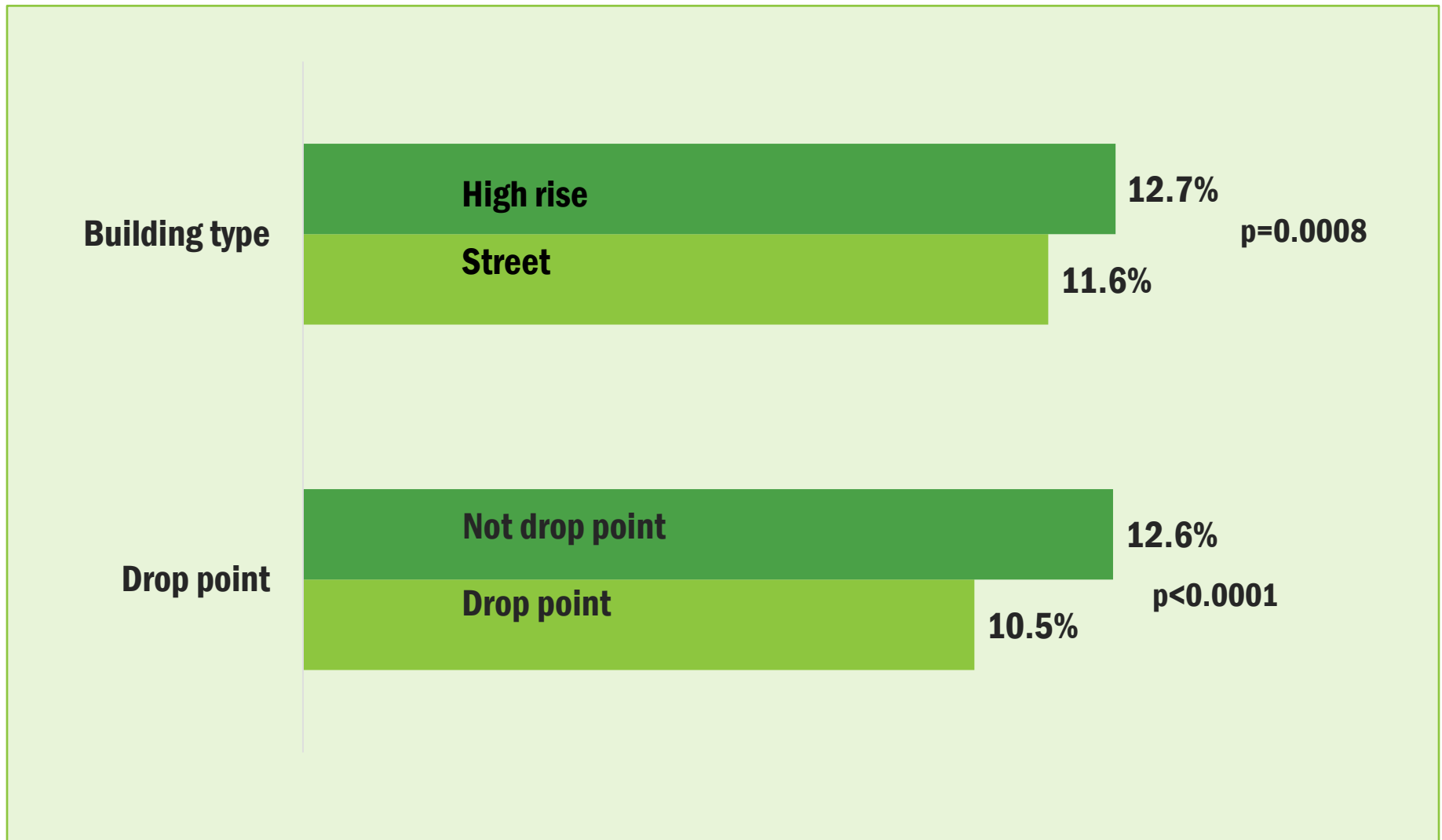
60,000 addresses were sent an invitation in June & September 2020



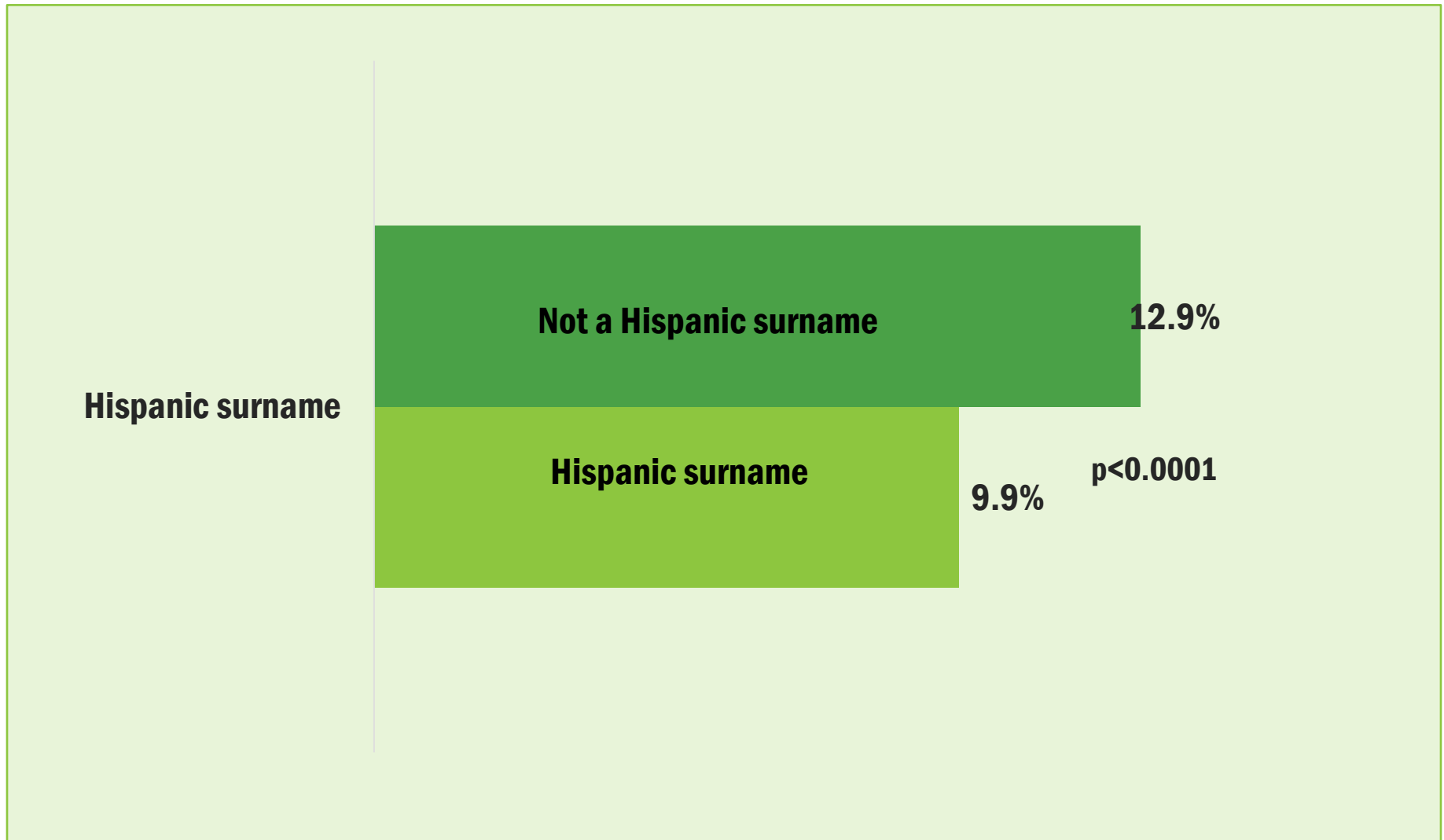
By January 2021, 7,435 people from the Address Based Sample had registered in Healthy NYC



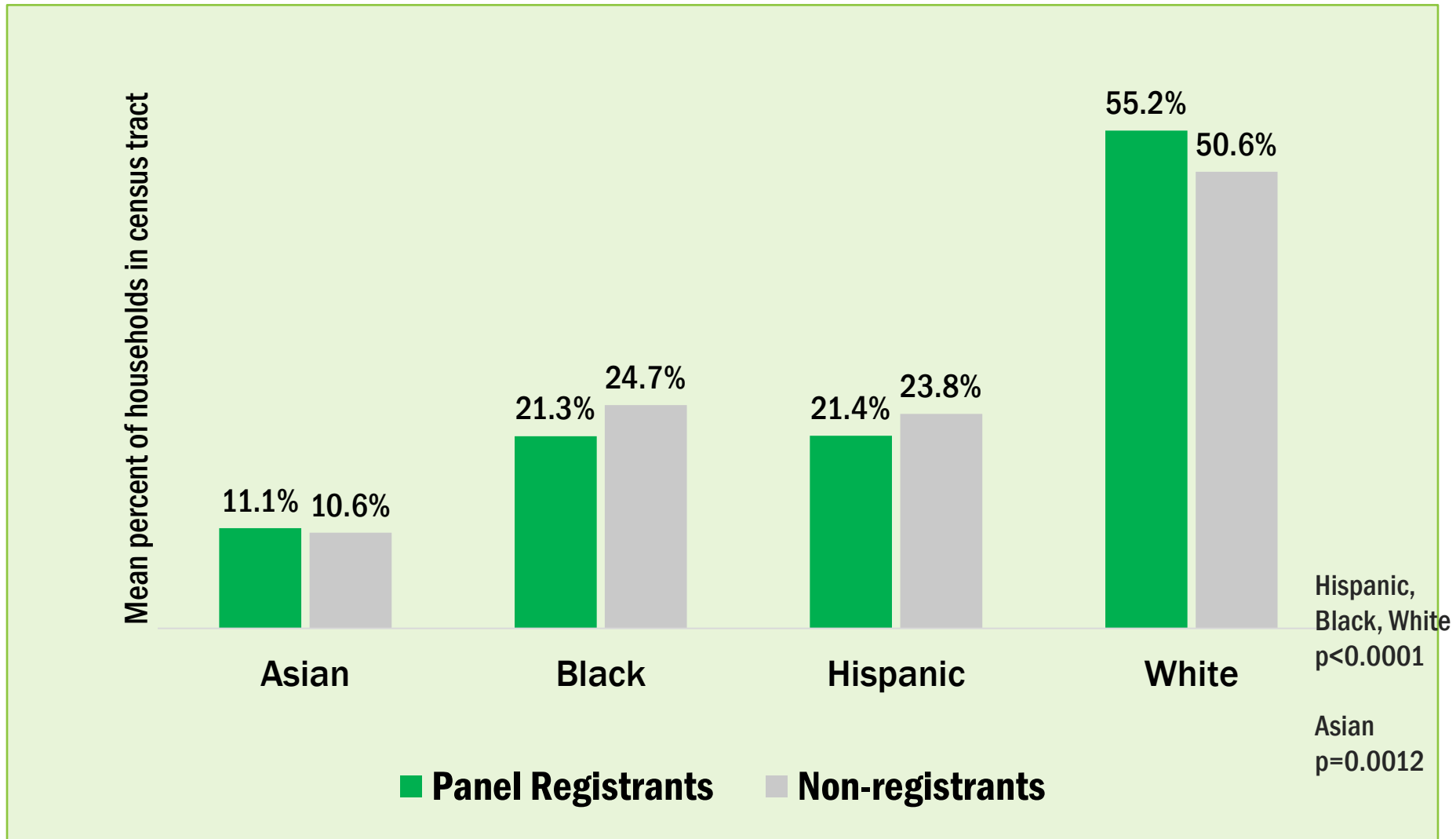
Panel participation varied by address type



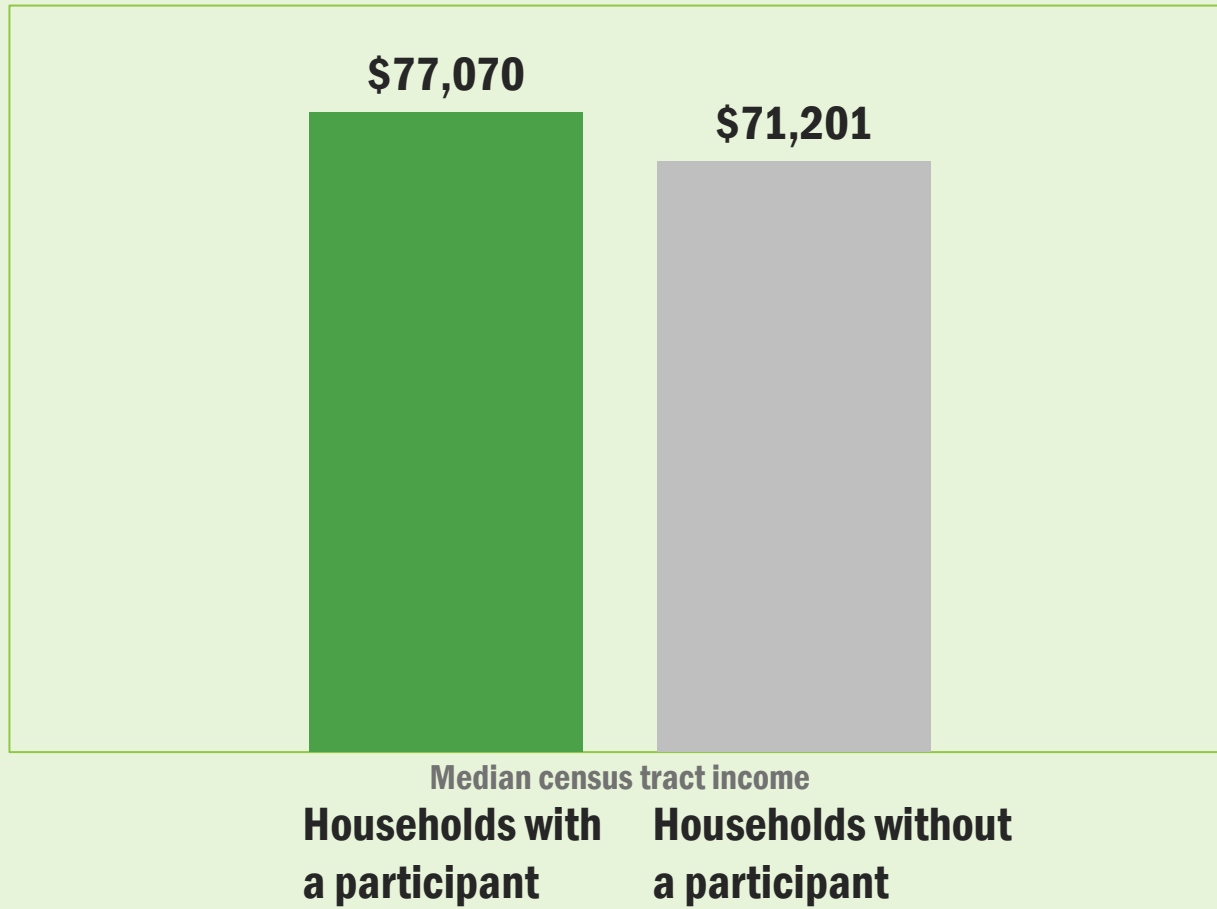
Panel participation varied by Hispanic surname in the household



Panel participation varied by household race/ethnicity of census tract



Participants were more likely to live in high-income neighborhoods



Discussion

Limitations

- Quality of the Address Based Sample auxiliary data
- Information about members of the household vs. the individual who registered for the panel
- Characteristics of invited individuals not captured by the auxiliary data
- Bias in panel registration is only the first opportunity for response bias in the survey process
- Differences between participants vs. non-participants may not be associated with health indicators



Potential for bias in Healthy NYC panel

Variation in likelihood of registering for the Healthy NYC survey:

- Postal characteristics of mailing address
- Household composition
- Demographic characteristics of household's census tract



Further research needed

- Assess whether biases in who participates may be associated with health indicators
- Explore mitigating approaches to bias:
 - Survey weights
 - More targeted sampling in upcoming years when panel is refreshed





For more information, contact NYC DOHMH
Bureau of Epidemiology Services
EpiDataRequest@health.nyc.gov

