

# Understanding Differences in the Disability Prevalence Across Federal Surveys: Why the 2014 Survey of Income and Program Participation Stands Out

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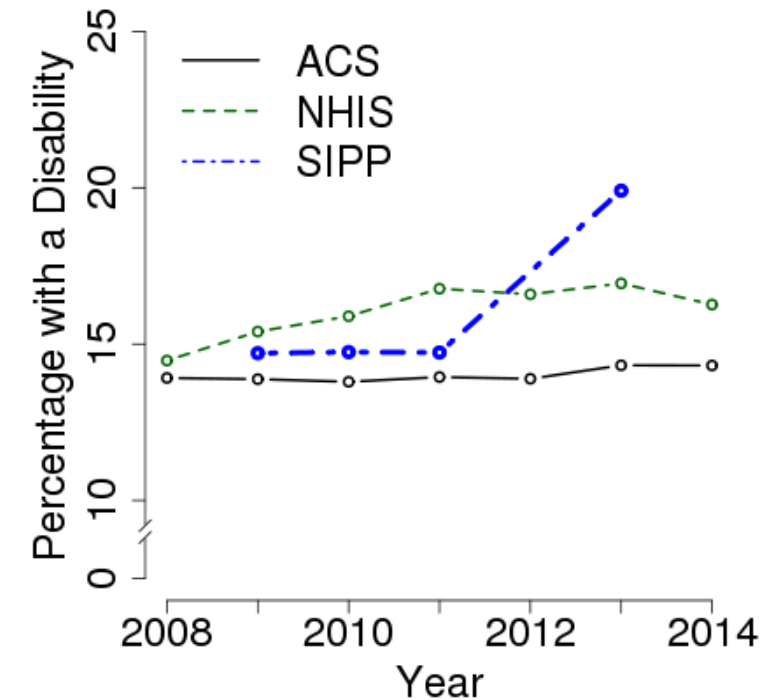
March 9, 2018

*This paper is released to inform interested parties of ongoing research and to encourage discussion of work in progress. The views expressed on methodological or operational issues are those of the authors and are not necessarily those of the U.S. Census Bureau. Any error or omissions are the sole responsibility of the authors. All data are subject to error arising from a variety of sources, including sampling error, non-sampling error, modeling error, and any other sources of error.*

# The Puzzle: Trends in Disability Across Three Federal Surveys: Part 1

- American Community Survey (ACS): a cross-sectional survey fielded every year.
- National Health Interview Survey (NHIS): a cross-sectional survey fielded every year.
- Survey of Income and Program Participation (SIPP): a longitudinal survey with panels lasting between 3-5 years.

Disability Trends Between 2008 and 2014 for Adults Aged 40-64

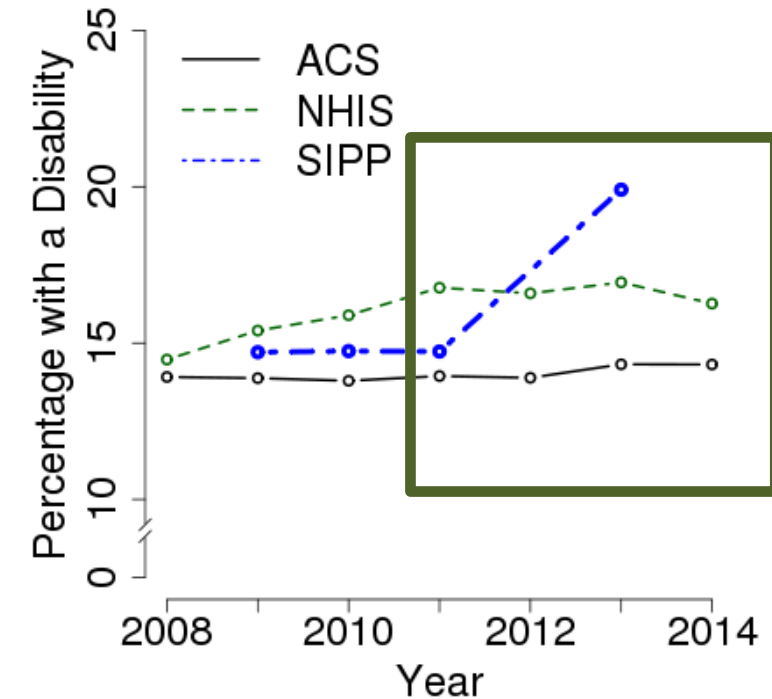


Source: U.S. Census Bureau, 2008 Survey of Income and Program Participation, 2014 Survey of Income and Program Participation, 2008 through 2014 American Community Survey 1-year files. 2008 through 2014 National Health Interview Survey.

# The Puzzle: Trends in Disability Across Three Federal Surveys: Part 1

- Same six question series fielded across all three federal survey.
- Disability captures any difficulty:
  - Hearing
  - Seeing
  - Dressing or Bathing
  - Running Errands
  - Concentrating
  - Or, Walking/Climbing Stairs

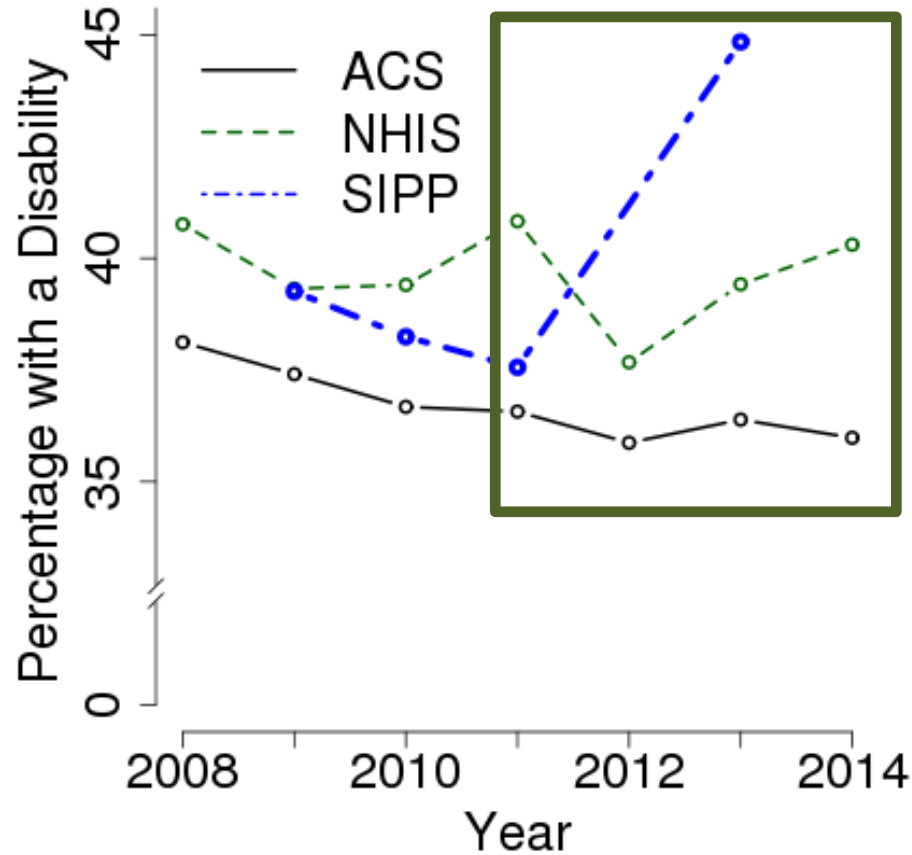
Disability Trends Between 2008 and 2014 for Adults Aged 40-64



Source: U.S. Census Bureau, 2008 Survey of Income and Program Participation, 2014 Survey of Income and Program Participation, 2008 through 2014 American Community Survey 1-year files. 2008 through 2014 National Health Interview Survey.

# The Puzzle: Trends in Disability Across Three Federal Surveys: Part 2

## Disability Trends Between 2008 and 2014 for Adults Aged 65 and Older



Source: U.S. Census Bureau, 2008 Survey of Income and Program Participation, 2014 Survey of Income and Program Participation, 2008 through 2014 American Community Survey 1-year files. 2008 through 2014 National Health Interview Survey.

# Why the Change in the Disability Prevalence in SIPP Between 2011 and 2013?

- A change in the SIPP sample?
- Data collection or processing?
- A survey redesign?

# Data

- ACS 1-year file, NHIS, SIPP 2008 Panel, and SIPP 2014 Panel.
- Wave 10 of the 2008 SIPP Panel and Wave 1 of the 2014 SIPP Panel.
- Social Security Administration Supplement to the 2014 SIPP Panel, para and survey data from the 2014 SIPP Panel, and 2008 SIPP Panel.
  
- Analytic sample always restricted to adults aged 40 and older.

# Methods: Decomposition

- Evaluates how much of the change in disability is due to measured sample characteristics, changes in how these characteristics relate to disability, and the interaction of sample and their relation to disability.
- Oaxaca-Blinder with logistic model.
- Will answer how much of the change in the disability prevalence can be explained by changes in the recruited sample.



# Methods: Other Checks

- Series of technical checks including:
  - Review of interview length.
  - Estimated disability prevalence before and after imputation and weighting.
  - Response concordance for disability questions asked repeatedly.

# Results

# Testing Each Explanation

- A change in the SIPP sample?
- Data collection or processing?
- A survey redesign?

# Can a Change in Sample Explain the Increase in Disability in SIPP?

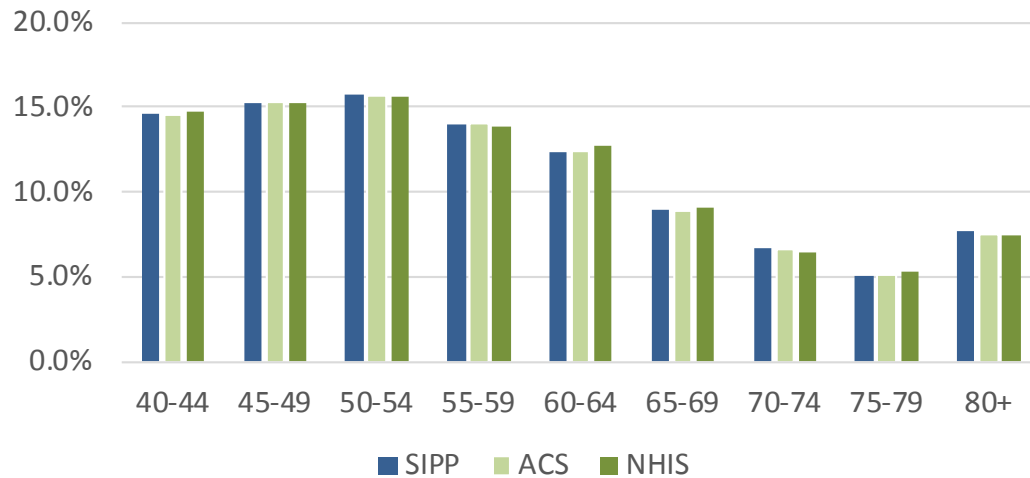
- Needs to be a change in the sample characteristic(s) associated with disability.
- A large change on a sampled demographic factor (age, sex, race/ethnic origin)—possible role of sampling procedures or weighting adjustment.
- If a change on unsampled economic or social factor—suggests a sample that just differs by chance.

# Sample Characteristics Examined

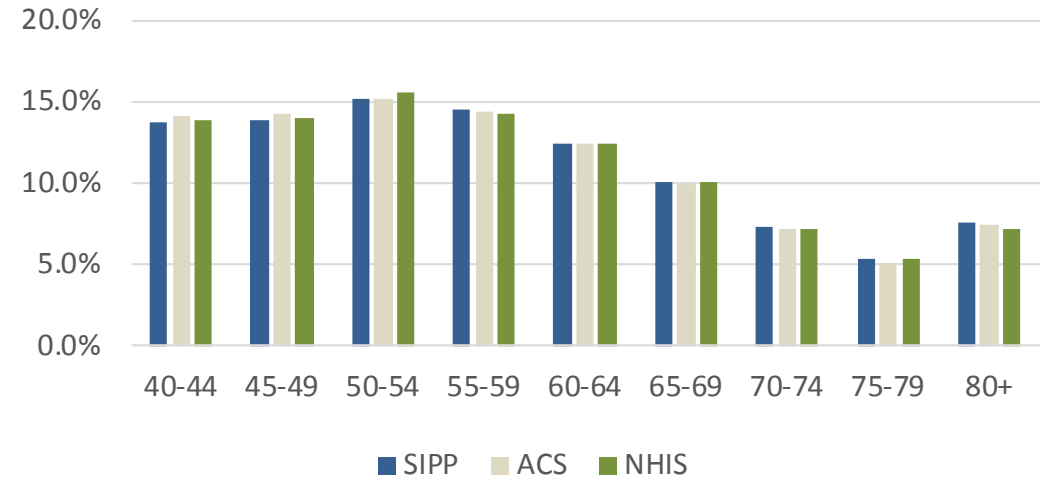
- *Sampled factors in ACS, NHIS, and SIPP:*
  - Age
  - Race
  - Sex
  - Region
- *Economic and Social Factors in Both SIPP Panels:*
  - Health Status
  - Medical Provider Visits
  - Household Poverty
  - Social Security Disability Income
  - Employment Status
  - Education
  - Marital Status

# Results: Age Distribution of the SIPP, ACS, and NHIS Samples in 2011 and 2013

Percent in Age Bracket by Survey: Calendar Year  
2011

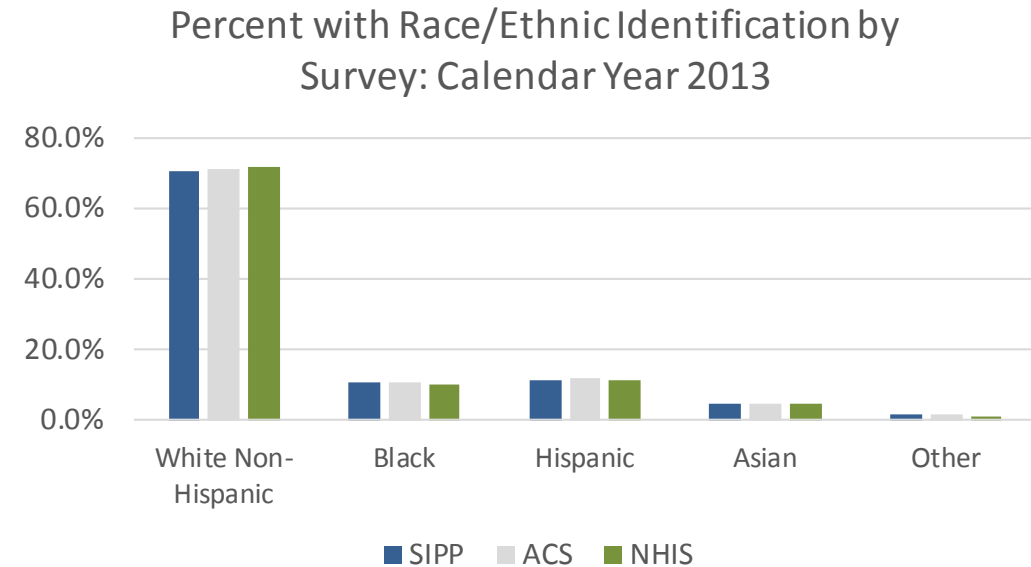
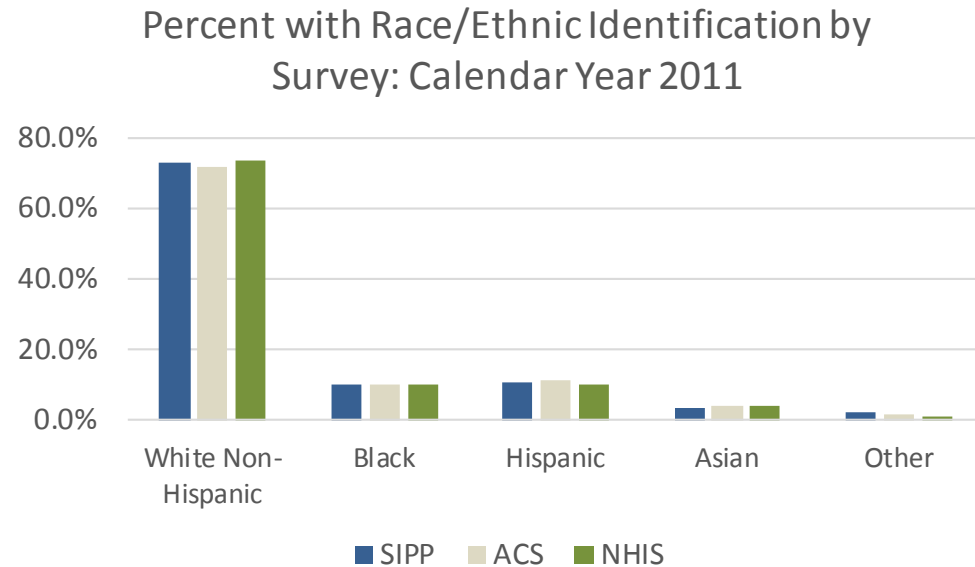


Percent in Age Bracket by Survey: Calendar Year  
2013



Source: U.S. Census Bureau, 2008 Survey of Income and Program Participation, 2014 Survey of Income and Program Participation, 2008 through 2014 American Community Survey 1-year files. 2008 through 2014 National Health Interview Survey.

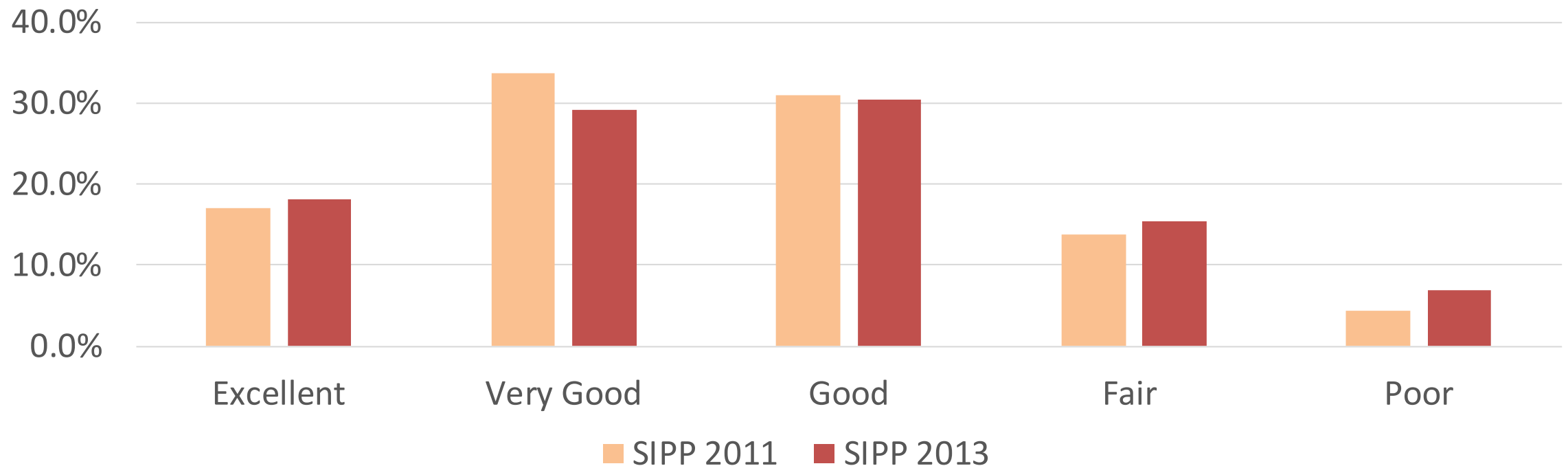
# Results: Race/Ethnic Composition of the SIPP, ACS, and NHIS Samples in 2011 and 2013



Source: U.S. Census Bureau, 2008 Survey of Income and Program Participation, 2014 Survey of Income and Program Participation, 2008 through 2014 American Community Survey 1-year files. 2008 through 2014 National Health Interview Survey.

# Results: Self-Rated Health of the SIPP Sample in 2011 and 2013

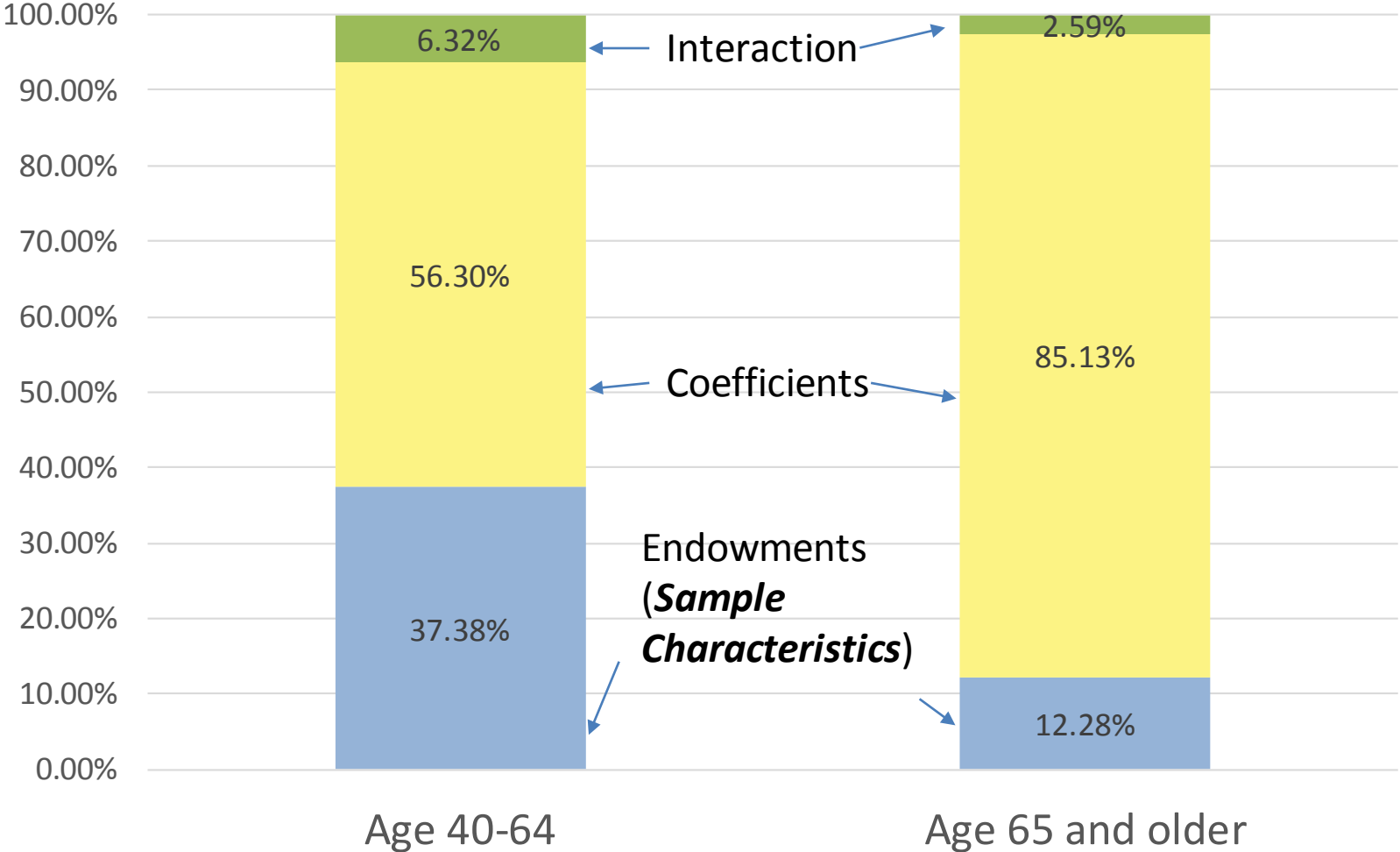
## Self-Rated Health in 2011 and 2013



Source: U.S. Census Bureau, 2008 Survey of Income and Program Participation, 2014 Survey of Income and Program Participation.



# Decomposition Results: Percent of Change in Disability Explained by Factor



Source: U.S. Census Bureau, 2008 Survey of Income and Program Participation, 2014 Survey of Income and Program Participation.

# What Sample Changes Explain Changes in the Disability Prevalence?

- Majority of the change is not explained by sample characteristics.
- Changes in self-rated health explain the largest part of the change in disability prevalence:
  - Adults aged 40-64: 29.5% of change explained by self-rated health.
  - Adults 65 and older: 25% of change explained by self-rated health.

# Results: Testing Each Explanation

- A change in the SIPP sample?
- Data collection or processing?
- A survey redesign?

# How Could the Change in Disability be Explained by Collection or Processing Procedures?

- Unusual interviewer behavior.
- Change in disability following inclusion of imputed cases.
- Change in disability following application of weights.

# Time Spent on Disability Questions in SIPP Data for 2013

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	No Disability Reported	Disability Reported
Average Time to Complete Disability Section (In Seconds)	33.3 (35.5)	59.6 (47.6)
Average Time Per Disability Item Viewed (In Seconds)	4.5 (4.5)	7.7 (6.1)

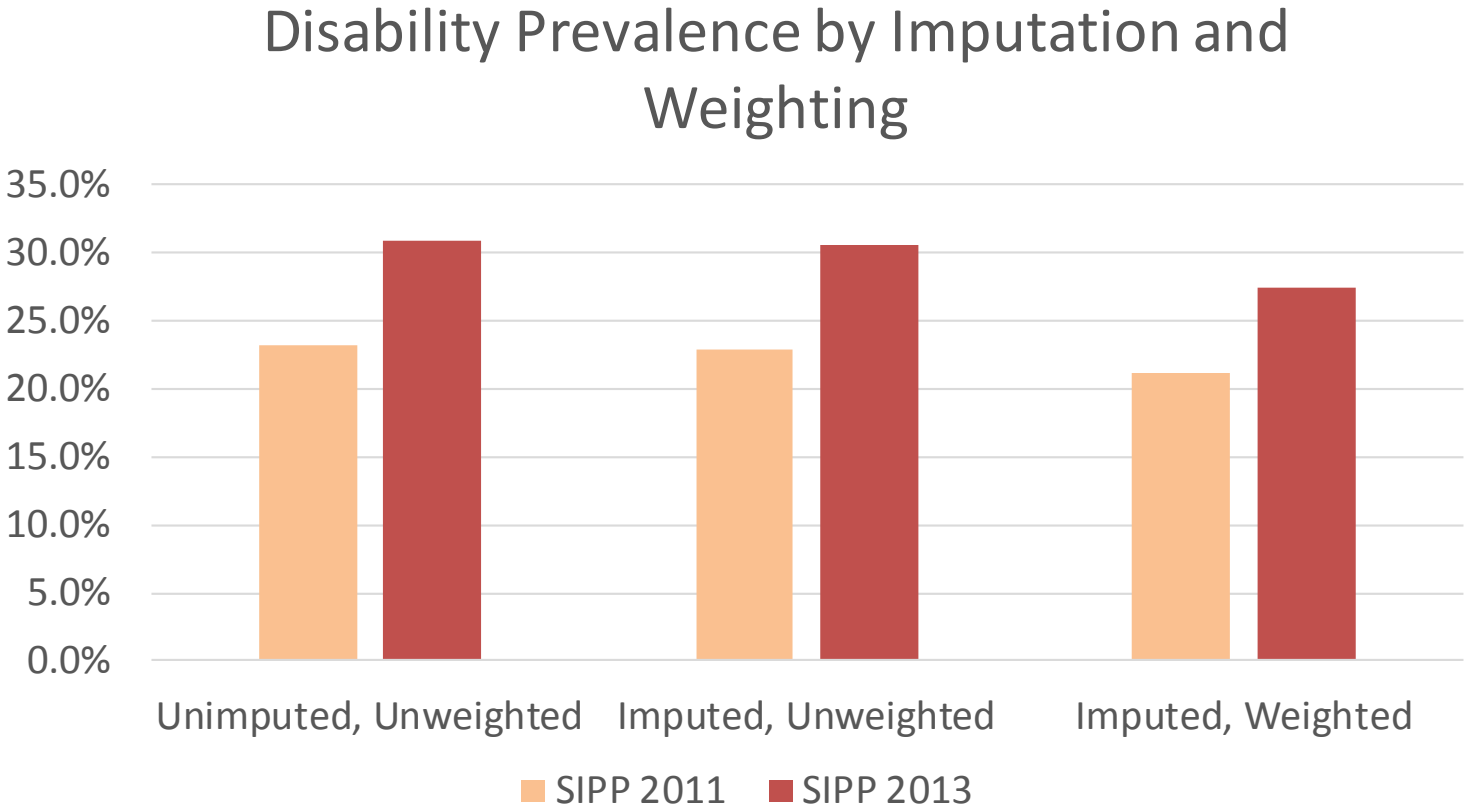
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Standard Deviation in Parentheses

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Source: U.S. Census Bureau, 2014 Survey of Income and Program Participation.

# Disability Prevalence by Imputation and Weighting Procedure for 2011 and 2013



Source: U.S. Census Bureau, 2008 Survey of Income and Program Participation, 2014 Survey of Income and Program Participation.

# Changes to Data Collection or Processing Procedures

- Not the explanation.
- No evidence to suggest unusual interviewer behavior or a change due to imputation or weighting.

# Results: Testing Each Explanation

- A change in the SIPP sample?
- Data collection or processing?
- A survey redesign?



# How Could a Change be Explained by Survey Design?

- Change in placement of disability questions in the SIPP survey.
- Change in structure of the survey from being measured every 4 months to once a year.
- However, the 2014 SIPP Panel also had an SSA Supplement which was similar to the topical module fielded in the 2008 SIPP Panel.

# Difficulty Dressing or Bathing: Response Concordance Across SIPP Panels

		2008 Wave 7	
		No	Yes
2008	No	93.6%	2.1%
Wave 6	Yes	2.2%	2.2%

		2014 Wave 1	
		No	Yes
2014 SSA	No	88.9%	2.4%
Supplement	Yes	4.7%	3.9%

**Percent with Difficulty Dressing or Bathing:**

2008 Wave 7: 4.3%  
 2008 Wave 6: 4.4%

**Percent with Difficulty Dressing or Bathing:**

2014 Wave 1: 6.3%  
 2014 SSA Supplement: 8.6%

Source: U.S. Census Bureau, 2014 Survey of Income and Program Participation.

# Conclusion

- The puzzle of changing disability in SIPP remains largely unexplained.
- Changes in sample composition, data collection/processing, and survey redesign do not appear to be likely explanations, although each perhaps explain a fraction of the change.
- Data from the 2014 SIPP Panel appears to be of high quality and a potentially rich data source for people interested in the study of disability.

# Contact Information

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