

# Measuring Housing Affordability as a Social Determinants of Health: Which Survey should Health Services Researchers Use?

Brett Fried, MS; Yun Taek Oh, MPH<sup>1</sup>; Elizabeth Lukanen, MPH<sup>1</sup>; Lynn Blewett, PhD<sup>1</sup>  
 (1) State Health Access Data Assistance Center (SHADAC), University of Minnesota

## Background

- Research shows that housing affordability is an important social determinate of health.<sup>1</sup>
- For this reason, it is important to be able to produce timely and accurate estimates enumerating people with unaffordable rents which is defined by government agencies such as HUD and USDA as spending 30% or more of their income on housing costs.<sup>2</sup>
- This research compares 5 surveys that can be used to measure unaffordable rents and includes national and some state findings
  1. The American Community Survey (ACS)
  2. The American Housing Survey (AHS)
  3. The Survey of Income and Program Participation (SIPP)
  4. The Behavioral Risk Factor Surveillance Survey (BRFSS)
  5. The National Health Interview Survey (NHIS)

<sup>1</sup> L. Taylor, "Housing and Health: An Overview of the Literature," Health Affairs Health Policy Brief, June 7, 2018. DOI: 10.1377/hlthaff.20180313.398185. <https://www.healthaffairs.org/doi/10.1377/hlthaff.20180313.398185/full>  
<sup>2</sup> Schwartz, M. & Wilson E. 2007. Who Can Afford to Live in a Home?: A look at data from the 2006 American Community Survey. Washington D.C., U.S. Census Bureau. <https://www.census.gov/housing/census/publications/who-can-afford.pdf>

## Research Objective

To provide health services researchers with information and data to make an informed decision when choosing between federal surveys that measure rent affordability.

## Methods

Using the five surveys listed above, we produced estimates of the number and percent of renters and the number and percent of individuals with unaffordable rents. We aligned definitions across surveys and tested for differences between the SIPP and ACS estimates at the 95% confidence level. We also compiled standardized characteristics on each survey and discuss potential reasons for differences across them.

## Principal Findings

### National Estimates

- Although there is some variation in the percent of households who rent across surveys (see **Table 1**) this variation is relatively small in magnitude (from 36.1% in the ACS to 37.2% in the SIPP).
- As shown in **Table 2**, larger differences are found for the percent of rental households paying 30% or more in rent. However, the largest difference is 4 percentage points.
- Another approach seen in **Table 3** is to directly measure financial distress caused by unaffordable rents. Because of differences in the questions, none of these estimates are directly comparable.

**Table 1. Percent of U.S. Households that Rent**

Survey	Year	Number (in millions)	Percent
ACS	2017	43.3	36.1
SIPP	2014	47.4	37.2*
AHS	2017	44.0	36.2

\* Statistically significant difference with the ACS estimate at the 95% level. No testing was done between the ACS and AHS estimates because of the unavailability of standard errors.

**Table 2. Percent of U.S. Rental Households Paying 30% of Their Income or More in Rent**

Survey	Year	Number (in millions)	Percent
ACS	2017	20.3	46.8
SIPP	2014	22.8	48.2*
AHS	2017	22.3	50.8

\* Statistically significant difference with the ACS estimate at the 95% level. No testing was done between the ACS and AHS estimates because of the unavailability of standard errors.

**Table 3. Other Measures of Unaffordable Rents**

Survey	Measure	States	Percent of all Adults
NHIS 2017	Worried about rent/mortgage now	All states and DC	21.4
BRFSS 2015	Worried about rent/mortgage at some point last year	AL,AR,DC,DE,GA,LA, MN,MS,MO,RI,TN,UT	66.2
BRFSS 2017	Unable to pay rent/mortgage at some point last year	FL,GA,IA,MA,MN,MS, NH,PA,UT,WV,WI,WY	9.5

## State Estimates: The Five States with the Largest Number of Households

- Although there are differences in the percent of households that rent between the three surveys (Table 4), the state rank within each survey is the same.
- As shown in Table 5, there are differences in the percent of rental households paying 30% or more in rent but the state rankings within each survey remain relatively consistent.

**Table 4. Percent of Households that Rent**

Survey	Year	California	Texas	Florida	New York	Pennsylvania
ACS	2017	45.1	37.9	34.9	46.2	31.5
SIPP	2014	47.0	38.6	38.5*	49.4	30.8
AHS	2017	45.3	37.8	35.7	48.0	29.6

\* Statistically significant difference with the ACS estimate at the 95% level. No testing was done between the ACS and AHS estimates because of the unavailability of standard errors.

**Table 5. Percent of Rental Households Paying 30% of Their Income or more in Rent**

Survey	Year	California	Texas	Florida	New York	Pennsylvania
ACS	2017	53.1	45.5	53.8	50.3	45.3
SIPP	2014	53.2	46.3	58.9	52.9	48.3
AHS	2017	56.6	50.8	59.5	55.3	48.6

\* Statistically significant difference with the ACS estimate at the 95% level. No testing was done between the ACS and AHS estimates because of the unavailability of standard errors.

## Factors contributing to differences in survey estimates

There are many reasons why unaffordable rent estimates vary across surveys. As shown in Table 6, the surveys are designed to fulfill different goals, and they have different reference periods, data collection modes, publicly available geographies, questions and processing methods.

**Table 6. Survey Characteristics**

Survey Characteristic	ACS	AHS	SIPP	NHIS	BRFSS
Sponsor	Census	HUD	Census	CDC	CDC
Conducted by	Census	Census	Census	NCHS	States
Main Focus	General	Housing	Public Program Participation	Health	Health
Target Population	Entire Pop.	Housing Units	Civilian Non-institutionalized Pop.	Civilian Non-institutionalized Pop.	Adult Civilian Noninstitutionalized Pop
Collection Mode	Mail, in-person, internet	In-person	In-person, phone	In-person	Phone
Measure of Unaffordable Rent	Rent/Util.	Rent/Util.	Rent/Util.	Worried about Rent	Worried about Rent & Unable to pay rent
Reference Period	Average over Year	Average over Year	December	Point-in-time	Sometime in last year
Survey Period	Monthly	Monthly	January-June	Continuous	Monthly
Latest Year Available	2017	2017	2014	2017	2017 & 2015
Number of States with Unaffordable Rent Measure	All	11	All	None	12

## Deciding which survey to use

Health policy analysts must decide which estimates to use among the multiple options available. No single survey provides the "best" estimates overall; rather, the most appropriate estimates will depend on the specific policy or research question being examined. The timeliness of the estimates, the geographies for which estimates are available, and the demographic or socioeconomic characteristics that are available in the survey are key considerations when choosing which estimates to use.

## Acknowledgement

Funding for this project is supported by the Robert Wood Johnson Foundation.

**References:** SHADAC analysis of ACS, NHIS and BRFSS microdata and estimates from the AHS table creator.

**Contact:** [bfried@umn.edu](mailto:bfried@umn.edu) or 612-624-1406