



# Office of Health Equity

## Healthy Communities Data and Indicators Project

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**Short Title:** Percent of households incurring housing cost burdens.

**Full Title:** Percent of households paying more than 30% (or 50%) of monthly household income towards housing costs.

### 1. Healthy Community Framework:

Meets basic needs of all.

### 2. What is Our Aspirational Goal?

Affordable, high quality, socially integrated and location- efficient housing.

### 3. Why is this Important to Health?

#### a. Description of significance and health connection.

Affordable, quality housing is central to health, conferring protection from the environment and supporting family life. Substandard housing is associated with increased risks of injury and respiratory ailments. Homes can be a source of exposure to radon, lead, asbestos or other hazardous agents. In children, lead exposure increases the risk of neurological impairment and developmental delays. Chronic homelessness is associated with higher rates of injuries, cancer, cardiovascular disease, substance addictions, mental disorders and death. Children and adolescents with transient housing have impaired academic performance. Housing costs— typically the largest, single expense in a family's budget—also impact decisions that affect health. As housing consumes larger proportions of household income, families have less income for nutrition, health care, transportation, education, etc. Severe cost burdens may induce poverty—which is associated with developmental and behavioral problems in children and accelerated cognitive and physical decline in adults. Low-income families and minority communities are disproportionately affected by the lack of affordable, quality housing.

#### b. Summary of evidence.

Controlled studies of the impact of housing characteristics or cost burdens on specific health outcomes are limited. However, cohort studies have documented adverse effects to health. Moisture linked to household mold was associated with respiratory illness, nausea, and fatigue. Lead abatement in residential housing was associated with abnormally, elevated blood lead levels in children. Overcrowding was associated with higher incidence of



tuberculosis. Housing insecurity, especially triggered by poverty, was associated with behavioral problems in children and excessive school absences.

#### c. References.

1. Baggett TP, Hwang SW, O'Connell JJ et al. Mortality among homeless adults in Boston: shifts in causes of death over a 15-year period. *JAMA Intern Med* 2013; 173:189-195.
2. Robert Wood Johnson Foundation. Commission to Build a Healthier America. Housing and Health, Issue Brief 2; 2008.
3. Stone ME. What is housing affordability? The case for the residual income approach. *Housing Policy Debate* 2006; 17:151–184.
4. Thomson H, Thomas S, Sellstrom E, Petticrew M. Housing improvements for health and associated socio-economic outcomes. *Cochrane Database Sys Rev* 2013; 2:335.
5. Office of the Deputy Prime Minister. The Impact of Overcrowding on Health & Education: A Review of Evidence and Literature. Wetherby, UK: Office of the Deputy Prime Minister Publications; 2004.
6. California Department of Housing & Community Development. Housing and Health. 2013.

#### 4. What is this Indicator?

##### a. Detailed Definition.

The indicator is defined as the percentage of households paying > 30% (and > 50%) of monthly household income toward monthly housing costs—rent and utilities or mortgage, utilities, property tax, insurance, home association fees, etc. The denominator of the indicator is the total number of households.

##### b. Stratification.

Housing tenure (owner-occupied, renter-occupied and total households); income level of renter/householder (households with a monthly household income at ≤ 30% and all levels of HUD-adjusted median family income); and race/ethnicity (seven groups).

##### c. Data Description.

- i. Data source: [U.S. Department of Housing and Urban Development \(HUD\), Consolidated Planning Comprehensive Housing Affordability Strategy \(CHAS\) data \(Tables 8 and 9\); U.S. Census Bureau, American Community Survey \(ACS\) \(Tables DP04, B25070 and B25091\).](#)
- ii. Years available: 2006 through 2010.



- iii. Updated: 3 and 5 year intervals.
- iv. Geographies available: census tracts, places, counties, regions (derived), and state.

In CHAS data, housing cost burden estimates were pre-calculated for renter- and owner- occupied households. To derive the percent of households with a >30% cost burden (numerator), estimates from two cost strata (30%-50% and >50%) were summed and divided by the denominator. For the percent of households incurring a >50% cost burden, the estimate for the > 50% severely cost-burdened was divided by the same denominator. Both derived percents were calculated for each type of housing tenure, where the number of total households was obtained by aggregating the estimates of renter- and owner-occupied households. The indicators and standard errors were calculated using the approximate method for the geographies of place, county, region, and state. Relative standard errors (RSE), 95% confidence intervals, and decile ranking of places were also calculated. Regions were based on counties of metropolitan transportation organizations (MPO) as reported in the [2010 California Regional Progress Report](#). Census tract estimates using CHAS data were statistically unstable (RSEs  $\geq$  30% for the majority of census tracts) and therefore not presented.

Stable estimates at the census tract level were provided by the ACS data. Here, the definition of the indicator was the percent of households incurring housing costs  $\geq$  30% (and  $\geq$  50%) of monthly household income. The denominator was renter and owner-occupied households paying housing costs; rent-free and mortgage-free households were excluded. Cost burden percentages were pre-calculated for renter- and owner-occupied, households separately. To derive the count of  $\geq$  30% cost-burdened households (numerator), two cost strata percentages (30-34% and  $\geq$ 35%) were summed and divided by the denominator. The percent of severely cost-burdened households was calculated from household counts for the  $\geq$ 50% cost burden. To determine the percent of total households with a  $\geq$  30% (and  $\geq$  50%) cost burden, the count estimates of renter- and owner-occupied households were combined.

## 5. Limitations.

The housing cost burden estimates do not adjust for differences in household size. Estimates for the survey period 2006-2010 are bisected by the Great Recession (2008), marked by a large increase in home foreclosures, and house/rental price instability. Due to changes in definitions and sampling, HUD does not recommend making comparisons to prior years' estimates. ACS data are available at census tract geographies, albeit with a definition of cost burden that is different than that of CHAS.

## 6. Projects using this indicator.

[Boston's Indicator Project](#); [Minnesota Compass](#).