Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.
eTable 1: Descriptive Characteristics of NHANES-HUD Sample by Rental Assistance Status 1999-2016 (N = 19,914)

| Characteristic                        | Current\(^a\) | Pseudo-waitlist\(^b\) | No Rental Assistance\(^c\) |
|---------------------------------------|---------------|------------------------|-----------------------------|
| n                                     | 795           | 255                    | 18,864                      |
| Rental Assistance Program\(^**\)      |               |                        |                             |
| Project-Based Housing                 | 0.517         | 0.662                  | NA                          |
| Vouchers                              | 0.483         | 0.338                  | NA                          |
| Female\(^**\)                         | 0.717         | 0.650                  | 0.523                       |
| Age Groups\(^**\)                     |               |                        |                             |
| 45-64                                 | 0.578         | 0.602                  | 0.673                       |
| 65+                                   | 0.422         | 0.398                  | 0.327                       |
| Race/Ethnicity\(^**\)                 |               |                        |                             |
| non-Hispanic White                    | 0.403         | 0.498                  | 0.765                       |
| non-Hispanic Black                    | 0.364         | 0.365                  | 0.089                       |
| non-Hispanic Other                    | 0.078         | 0.020                  | 0.054                       |
| Hispanic                              | 0.155         | 0.117                  | 0.092                       |
| Education\(^**\)                      |               |                        |                             |
| Less than High School                 | 0.474         | 0.409                  | 0.180                       |
| High School                           | 0.253         | 0.304                  | 0.244                       |
| Some College                          | 0.208         | 0.244                  | 0.295                       |
| Bachelor’s Degree                     | 0.066         | 0.043                  | 0.281                       |
| Family Poverty Status\(^**\)         |               |                        |                             |
| Below 50% FPL                         | 0.128         | 0.067                  | 0.022                       |
| 50-99% of FPL                         | 0.433         | 0.371                  | 0.067                       |
| 100-199% of FPL                       | 0.339         | 0.402                  | 0.184                       |
| 200%+ of FPL                          | 0.048         | 0.097                  | 0.677                       |
| Missing                                | 0.052         | 0.063                  | 0.051                       |

Notes: Sample is limited to adults ages 45+. FPL=Federal Poverty Line.
\(^a\)Receiving rental assistance at interview.
\(^b\)Not receiving assistance at interview, but will enter assistance within 2 years of interview.
\(^c\)Not receiving rental assistance at interview or within 2 years 1999 and 2016.
Source: NHANES-HUD linked data file 1999-2016
\(\dagger p<0.1 \ast p<0.05 \ast\ast p<0.01 \) – Chi-Square test of differences across groups
Table 2: HUD Program-Specific Descriptive Characteristics of NHANES-HUD Sample by Rental Assistance Status 1999-2016 (N = 1050)

|                          | Vouchers          | Project-Based Housing |
|--------------------------|-------------------|-----------------------|
|                          | Current<sup>a</sup> | Pseudo-waitlist<sup>b</sup> | Current<sup>a</sup> | Pseudo-waitlist<sup>b</sup> |
| n                        | 345               | 90                    | 450               | 165                    |
| Mean Assistance Duration (Years) | 4.6            | 4.5                   |
| Female                   | 0.701             | 0.713                 | 0.732             | 0.618                  |
| Age Groups               |                   |                       |                   |                       |
| 45-64                    | 0.703             | 0.745                 | 0.446             | 0.512                  |
| 65+                      | 0.297             | 0.255                 | 0.554             | 0.488                  |
| Race/Ethnicity           |                   |                       |                   |                       |
| non-Hispanic White       | 0.431             | 0.283                 | 0.377             | 0.608                  |
| non-Hispanic Black       | 0.343             | 0.532                 | 0.384             | 0.279                  |
| non-Hispanic Other       | c                 | c                     | 0.113             | 0.027                  |
| Hispanic                 | c                 | c                     | 0.125             | 0.086                  |
| Education                |                   |                       |                   |                       |
| Less than High School    | 0.450             | 0.374                 | 0.495             | 0.427                  |
| High School              | 0.254             | 0.248                 | 0.252             | 0.333                  |
| Some College             | c                 | c                     | 0.180             | 0.192                  |
| Bachelor’s Degree        | c                 | c                     | 0.073             | 0.049                  |
| Family Poverty Status*   |                   |                       |                   |                       |
| Below 50% FPL            | 0.153             | 0.114                 | 0.105             | 0.043                  |
| 50-99% of FPL            | 0.445             | 0.364                 | 0.422             | 0.375                  |
| 100-199% of FPL          | 0.315             | 0.377                 | 0.361             | 0.414                  |
| 200%+ of FPL             | 0.035             | 0.113                 | 0.060             | 0.089                  |
| Missing                  | 0.052             | 0.032                 | 0.052             | 0.079                  |

Notes: Sample is limited to adults ages 45+ who receive rental assistance at some point during the observation period 1999-2016. FPL=Federal Poverty Line.
<sup>a</sup>Receiving rental assistance at interview.
<sup>b</sup>Not receiving assistance at interview, but will enter assistance within 2 years of interview.
Source: NHANES-HUD linked data file 1999-2016
<sup>c</sup>Value suppressed due to small sample size to avoid disclosure risk.
†p<0.1 *p<0.05 **p<0.01 – Chi-Square test of differences between current and pseudo-waitlist by program

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| Table 3: Linear Models Predicting Hemoglobin A₁c (%) as a Function of Rental Assistance by Housing Program, NHANES-HUD 1999-2016 |
|---------------------------------------------------------------|
| A₁c (%)                                                       |
| Housing Voucher | Project-Based Housing |
|-----------------|----------------------|
| Rental Assistance Status                                    |
| Current Assistance | 0.051 (-0.182,0.284) | -0.290 (-0.599,0.020)† |
| Age in years    | 0.004 (-0.008,0.016) | 0.008 (0.000,0.017)* |
| Female          | -0.225 (-0.580,0.130) | -0.060 (-0.262,0.141) |
| Race/Ethnicity  |
| Non-Hispanic White (ref.)                                   |
| Non-Hispanic Black | -0.110 (-0.316,0.096) | 0.516 (0.280,0.751)*** |
| Non-Hispanic Other | -0.241 (-1.292,0.809) | 0.371 (0.074,0.669)* |
| Hispanic/Latino  | -0.152 (-0.487,0.182) | 0.167 (-0.119,0.453) |
| Education       |
| Less than High School (ref.)                                |
| High School      | 0.130 (-0.208,0.469)  | -0.375 (-0.674,-0.075)* |
| Some College     | 0.005 (-0.309,0.317)  | -0.388 (-0.632,-0.143)** |
| Bachelor's Degree | 0.123 (-0.586,0.831)  | -0.127 (-0.637,0.384) |
| Family Poverty Status                                      |
| Below 50% FPL (ref.)                                       |
| 50-99% of FPL     | 0.183 (-0.266,0.631)  | 0.334 (0.124,0.545)** |
| 100-199% of FPL   | -0.222 (-0.691,0.247) | 0.321 (0.034,0.608)* |
| 200%+ of FPL      | -0.380 (-0.884,0.125) | 0.592 (0.041,1.144)* |
| Missing           | -0.416 (-1.159,0.327) | -0.134 (-0.457,0.430) |
| State and Year Fixed Effects                                | Yes | Yes |
| N                | 435 | 615 |

Note: Models predict continuous hemoglobin A₁c among adults ages 45+. All models account for the complex survey design of NHANES and are weighted to reflect eligibility for linkage to the HUD record. 95% confidence intervals in parentheses.

aValue suppressed due to small sample size to avoid disclosure risk.

†p<0.1 *p<0.05 **p<0.01
Table 4: Linear Models Predicting A1c (%) as a Function of Voucher Assistance With Gender and Race and Ethnicity Interactions, NHANES-HUD 1999-2016

|                     | A1c (%) |  |  |
|---------------------|---------|---|---|
|                     | Model 1 | Model 2 |   |
| Rental Assistance Status |         |         |   |
| Pseudo-waitlist (ref.) |         |         |   |
| Current Assistance   | 0.545 (0.034,1.056)* | -0.007 (-0.345,0.330) |   |
| Female               | 0.355 (-0.083,0.793) |         |   |
| Race/Ethnicity       |         |         |   |
| non-Hispanic white   | 0.006 (-0.686,0.698) |         |   |
| non-Hispanic Black (ref.) |         |         |   |
| Other                | a       |         |   |
| Hispanic             | -0.257 (-0.841,0.327) |         |   |
| Interactions         |         |         |   |
| Female x Current     | -0.721 (-1.385,-0.058)* |         |   |
| White x Current      | 0.136 (-0.571,0.844) |         |   |
| Other x Current      | a       |         |   |
| Hispanic x Current   | 0.282 (-0.535,1.100) |         |   |
| Sociodemographic Controls | Yes | Yes |   |
| State Fixed Effects  | Yes | Yes |   |
| N                   | 435 | 435 |   |

Note: Models predict continuous hemoglobin A1c among adults ages 45+. All models account for the complex survey design of NHANES and are weighted to reflect eligibility for linkage to the HUD record. Model 1 includes an interaction between rental assistance status and gender. Model 2 includes an interaction between rental assistance status and race/ethnicity. All models adjust for individual and family covariates (gender, age, race/ethnicity, education level, family income-to-poverty ratio), NHANES survey year cycle, and state of residence. 95% confidence intervals in parentheses.

*Value suppressed due to small sample size to avoid disclosure risk.
†p<0.1 *p<0.05 **p<0.01
|                             | A1c ≥ 5.7 | A1c ≥ 6.5 | A1c ≥ 9.0 |
|-----------------------------|-----------|-----------|-----------|
| Rental Assistance Status    |           |           |           |
| Pseudo-waitlist (ref.)      |           |           |           |
| Current Assistance          | -6.0      | 2.5       | 2.7       |
| 95% CI                     | (-16.6,4.6)| (-6.9,11.8)| (-1.0,6.4)|
| Reference Group Mean of     |           |           |           |
| Dependent Variable          | 62.5      | 19.3      | 4.0       |
| Sociodemographic Controls   | Yes       | Yes       | Yes       |
| State Fixed Effects         | Yes       | Yes       | Yes       |
| N                           | 435       | 435       | 435       |

Note: Models predict likelihood of having hemoglobin A1c above select cutoffs. A1c >5.7% corresponds to prediabetes, 6.5% to diabetes, and 9.0% to uncontrolled diabetes. Values shown indicate average percentage point difference in the probability of being above the cutoff when receiving current assistance vs. pseudo-waitlist. All models account for the complex survey design of NHANES and are weighted to reflect eligibility for linkage to the HUD record. All models adjust for individual and family covariates (gender, age, race/ethnicity, education level, family income-to-poverty ratio), NHANES survey year cycle, and state of residence. 95% confidence intervals in parentheses.  †p<0.1 *p<0.05 **p<0.01
Table 6: Linear Models Predicting Hemoglobin A1c (%) as a Function of Rental Assistance for Public Housing and Multifamily Housing, NHANES-HUD 1999-2016

| Rental Assistance Status | Public Housing | Multifamily Housing |
|--------------------------|----------------|---------------------|
| Pseudo-waitlist (ref.)   |                |                     |
| Current Assistance       | -0.380 (-0.775,0.015)† | -0.145 (-0.478,0.188) |

| Sociodemographic Controls | Yes | Yes |
|----------------------------|-----|-----|
| State Fixed Effects        | Yes | Yes |
| N                          | 236 | 379 |

Note: Models predict continuous hemoglobin A1c among adults ages 45+. All models account for the complex survey design of NHANES and are weighted to reflect eligibility for linkage to the HUD record. All models adjust for individual and family covariates (gender, age, race/ethnicity, education level, family income-to-poverty ratio), NHANES survey year cycle, and state of residence. Coefficients compare current assistance to the pseudo-waitlist group for each housing program. 95% confidence intervals in parentheses.

†p<0.1 *p<0.05 **p<0.01