ㄴTable1

Summary statistics.

|  |  |  |  |
| --- | --- | --- | --- |
|  | HRS SAMPLE | | |
|  |
| VARIABLES | (1)  Full sample | (2)  Age  65-70 | (3)  Age  60-74 |
|  |  |  |  |
| CESD | 1.328  (0.010) | 1.357  (0.013) | 1.286 (0.015) |
| Rx coverage | 0.874  (0.002) | 0.873  (0.002) | 0.876 (0.003) |
| Age | 65.235  (0.016) | 67.48  (0.011) | 61.99 (0.011) |
| Male | 0.437  (0.003) | 0.446  (0.003) | 0.424 (0.003) |
| Non-Hispanic black | 0.151  (0.002) | 0.152  (0.002) | 0.147 (0.002) |
| Other non-Hispanic race | 0.021  (0.001) | 0.019  (0.000) | 0.022 (0.001) |
| Hispanic | 0.096  (0.002) | 0.092  (0.001) | 0.100 (0.002) |
| High school graduate | 0.320  (0.002) | 0.324 (  0.003) | 0.312 (0.003) |
| College or higher | 0.416  (0.003) | 0.383  (0.003) | 0.462 (0.003) |
| Married | 0.681  (0.002) | 0.660  (0.003) | 0.710 (0.003) |
| Divorced/separated | 0.125  (0.002) | 0.120  (0.002) | 0.132 (0.002) |
| Widowed | 0.125  (0.002) | 0.152  (0.002) | 0.085 (0.002) |
|  |  |  |  |
| N | 35,428 | 20,864 | 14,564 |
| Persons | 13.670 | 10,427 | 8,843 |
|  |  |  |  |

Means and standard errors are calculated using survey weights.

This variable is available for fewer observations (N = 24,184) due to survey skip patterns.

Table2

The effect of Part D on CESD – DD models.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| VARIABLES | (1) | (2) | (3) | |
|  |  |  |  | |
| Age 65-70\_Post | -0.142\*\*\*  (0.046) | -0.127\*\*\*  (0.045) | -0.124\*\*\*  (0.045) | |
| Age 65-70 | 0.191\*\*\* | 0.157\*\*\* | 0.126\*\*\* | |
|  | (0.039) | (0.039) | (0.039) | |
| Post | 0.068\*\* | 0.070\*\* | 0.074\*\* | |
|  | (0.034) | (0.033) | (0.033) | |
| Age | -0.477\*\*\* | -0.400\*\*\* | -0.398\*\*\* | |
|  | (0.132) | (0.131) | (0.132) | |
| Age squared | 0.003\*\*\* | 0.003\*\*\* | 0.003\*\*\* | |
|  | (0.001) | (0.001) | (0.001) | |
| Male | -0.271\*\*\* | -0.232\*\*\* | -0.200\*\*\* | |
|  | (0.028) | (0.028) | (0.028) | |
| Black | 0.144\*\*\* | 0.039 | 0.038 | |
|  | (0.043) | (0.043) | (0.042) | |
| Other race | 0.319\*\*\* | 0.257\*\*\* | 0.249\*\*\* | |
|  | (0.103) | (0.099) | (0.096) | |
| Hispanic | 0.411\*\*\* | 0.239\*\*\* | 0.243\*\*\* | |
|  | (0.067) | (0.066) | (0.065) | |
| High school graduate | -0.610\*\*\* | -0.483\*\*\* | -0.454\*\*\* | |
|  | (0.044) | (0.043) | (0.043) | |
| College or higher | -0.896\*\*\* | -0.666\*\*\* | -0.632\*\*\* | |
|  | (0.041) | (0.042) | (0.041) | |
| Married | -0.355\*\*\* | -0.191\*\*\* | -0.195\*\*\* | |
|  | (0.055) | (0.054) | (0.053) | |
| Divorced/separated | 0.323\*\*\* | 0.201\*\*\* | 0.233\*\*\* | |
|  | (0.069) | (0.067) | (0.066) | |
| Widowed | 0.253\*\*\* | 0.149\*\* | 0.201\*\*\* | |
|  | (0.069) | (0.068) | (0.066) | |
| Income quintile 2 |  | -0.454\*\*\* | -0.333\*\*\* |
|  |  | (0.048) | (0.047) |
| Income quintile 3 |  | -0.706\*\*\* | -0.553\*\*\* |
|  |  | (0.048) | (0.048) |
| Income quintile 4 |  | -0.854\*\*\* | -0.668\*\*\* |
|  |  | (0.048) | (0.049) |
| Income quintile 5 |  | -0.963\*\*\* | -0.750\*\*\* |
|  |  | (0.050) | (0.050) |
| Working |  |  | -0.250\*\*\* |
|  |  |  | (0.029) |
| Retired |  |  | -0.373\*\*\* |
|  |  |  | (0.031) |
| Unemployed |  |  | 0.154\* |
|  |  |  | (0.087) |
| Disabled |  |  | 1.287\*\*\* |
|  |  |  | (0.109) |
| Constant | 18.295\*\*\* | 16.424\*\*\* | 16.364\*\*\* |
|  | (4.322) | (4.301) | (4.316) |
| R-squared | 0.093 | 0.112 | 0.126 |
| Observations | 35,428 | 35,428 | 35,428 |
| Persons | 12,979 | 12,979 | 12,979 |

Regressions are weighted using survey weights and robust standard errors in parentheses are clustered at the individual level. Regressions also include dummies for

census divisions of residence and for month of interview.

\* p < 0.10. \*\* p < 0.05. \*\*\* p < 0.01.

**Table 3**

The effect of Part D on CESD – Year FE models.

|  |  |  |  |
| --- | --- | --- | --- |
|  | (1) | (1) | (1) |
| VARIABLES | CESD | CESD | CESD |
|  |  |  |  |
| Age 65-70#Year 2002 | -0.005 | -0.006 | -0.014 |
|  | (0.056) | (0.056) | (0.055) |
| Age 65-70#Year 2004 | -0.041 | -0.034 | -0.032 |
|  | (0.065) | (0.065) | (0.064) |
| Age 65-70#Year 2006 | -0.134\* | -0.139\*\* | -0.140\*\* |
|  | (0.071) | (0.070) | (0.070) |
| Age 65-70#Year 2008 | -0.154\*\* | -0.137\* | -0.138\*\* |
|  | (0.071) | (0.070) | (0.070) |
| Age 65-70#Year 2010 | -0.217\*\*\* | -0.180\*\*\* | -0.173\*\* |
|  | (0.068) | (0.067) | (0.067) |
| Age 65-70 | 0.206\*\*\* | 0.171\*\*\* | 0.142\*\*\* |
|  | (0.054) | (0.053) | (0.053) |
| Year 2002 | -0.057 | -0.050 | -0.043 |
|  | (0.041) | (0.040) | (0.040) |
| Year 2004 | -0.068 | -0.074 | -0.060 |
|  | (0.046) | (0.046) | (0.046) |
| Year 2006 | 0.049 | 0.063 | 0.076 |
|  | (0.052) | (0.052) | (0.052) |
| Year 2008 | 0.023 | 0.033 | 0.047 |
|  | (0.054) | (0.053) | (0.053) |
| Year 2010 | 0.005 | -0.007 | -0.000 |
|  | (0.051) | (0.051) | (0.050) |
| Age | -0.489\*\*\* | -0.412\*\*\* | -0.414\*\*\* |
|  | (0.132) | (0.131) | (0.131) |
| Age squared | 0.004\*\*\* | 0.003\*\*\* | 0.003\*\*\* |
|  | (0.001) | (0.001) | (0.001) |
| Male | -0.272\*\*\* | -0.233\*\*\* | -0.201\*\*\* |
|  | (0.028) | (0.028) | (0.028) |
| Black | 0.146\*\*\* | 0.041 | 0.040 |
|  | (0.043) | (0.043) | (0.042) |
| Other race | 0.320\*\*\* | 0.258\*\*\* | 0.250\*\*\* |
|  | (0.103) | (0.099) | (0.096) |
| Hispanic | 0.413\*\*\* | 0.242\*\*\* | 0.245\*\*\* |
|  | (0.067) | (0.066) | (0.065) |
| High school graduate | -0.607\*\*\* | -0.480\*\*\* | -0.451\*\*\* |
|  | (0.044) | (0.043) | (0.043) |
| College or higher | -0.892\*\*\* | -0.662\*\*\* | -0.628\*\*\* |
|  | (0.041) | (0.042) | (0.041) |
| Married | -0.358\*\*\* | -0.195\*\*\* | -0.198\*\*\* |
|  | (0.056) | (0.054) | (0.053) |
| Divorced/separated | 0.321\*\*\* | 0.199\*\*\* | 0.230\*\*\* |
|  | (0.069) | (0.067) | (0.066) |
| Widowed | 0.248\*\*\* | 0.144\*\* | 0.197\*\*\* |
|  | (0.069) | (0.068) | (0.067) |
| Income quintile 2 |  | -0.454\*\*\* | -0.333\*\*\* |
|  |  | (0.048) | (0.047) |
| Income quintile 3 |  | -0.706\*\*\* | -0.553\*\*\* |
|  |  | (0.048) | (0.048) |
| Income quintile 4 |  | -0.853\*\*\* | -0.668\*\*\* |
|  |  | (0.048) | (0.049) |
| Income quintile 5 |  | -0.963\*\*\* | -0.751\*\*\* |
|  |  | (0.050) | (0.050) |
| Working |  |  | -0.249\*\*\* |
|  |  |  | (0.029) |
| Retired |  |  | -0.372\*\*\* |
|  |  |  | (0.031) |
| Unemployed |  |  | 0.167\* |
|  |  |  | (0.087) |
| Disabled |  |  | 1.283\*\*\* |
|  |  |  | (0.109) |
| Constant | 18.734\*\*\* | 16.891\*\*\* | 16.924\*\*\* |
|  | (4.312) | (4.293) | (4.311) |
| R-squared | 0.094 | 0.112 | 0.126 |
| Observations | 35,428 | 35,428 | 35,428 |
| Persons | 12,979 | 12,979 | 12,979 |
|  |  |  |  |
| **p-Value for F-test of statistical difference from Age 65 to 70 × Year 2004** | | | |
| Age 65–70 × Year 2006  Age 65–70 × Year 2008  Age 65–70 × Year 2010 |  | 0.1532  0.0220  0.0000 |  |

egressions are weighted using survey weights and robust standard errors in parentheses are clustered at the individual level. Regressions also include dummies for census divisions of residence and for month of interview.

\* p < 0.10. \*\* p < 0.05. \*\*\* p < 0.01.

**Table 4**

The effect of Part D on clinical depression – Year FE models

|  |  |  |  |
| --- | --- | --- | --- |
|  | (1) | (1) | (1) |
| VARIABLES | CESD | CESD | CESD |
| Age 65-70#Year 2002 | 0.015 | 0.014 | 0.012 |
|  | (0.012) | (0.012) | (0.012) |
| Age 65-70#Year 2004 | 0.002 | 0.002 | 0.001 |
|  | (0.014) | (0.014) | (0.014) |
| Age 65-70#Year 2006 | -0.010 | -0.011 | -0.014 |
|  | (0.015) | (0.014) | (0.014) |
| Age 65-70#Year 2008 | -0.017 | -0.015 | -0.015 |
|  | (0.014) | (0.014) | (0.014) |
| Age 65-70#Year 2010 | -0.039\*\*\* | -0.034\*\* | -0.032\*\* |
|  | (0.014) | (0.014) | (0.014) |
| Age 65-70 | 0.027\*\* | 0.021\* | 0.018 |
|  | (0.011) | (0.011) | (0.011) |
| Year 2002 | -0.014 | -0.013 | -0.011 |
|  | (0.009) | (0.009) | (0.009) |
| Year 2004 | -0.013 | -0.014 | -0.010 |
|  | (0.010) | (0.010) | (0.010) |
| Year 2006 | -0.024\*\* | -0.022\*\* | -0.018\* |
|  | (0.011) | (0.011) | (0.011) |
| Year 2008 | -0.030\*\*\* | -0.029\*\*\* | -0.026\*\* |
|  | (0.011) | (0.011) | (0.011) |
| Year 2010 | -0.039\*\*\* | -0.040\*\*\* | -0.037\*\*\* |
|  | (0.010) | (0.010) | (0.010) |
| Age | -0.053\* | -0.041 | -0.021 |
|  | (0.028) | (0.028) | (0.028) |
| Age squared | 0.000\* | 0.000 | 0.000 |
|  | (0.000) | (0.000) | (0.000) |
| Male | 0.035\*\*\* | 0.040\*\*\* | 0.043\*\*\* |
|  | (0.006) | (0.006) | (0.006) |
| Black | 0.027\*\*\* | 0.011 | 0.009 |
|  | (0.009) | (0.009) | (0.008) |
| Other race | 0.055\*\*\* | 0.045\*\* | 0.041\*\* |
|  | (0.020) | (0.020) | (0.020) |
| Hispanic | 0.066\*\*\* | 0.041\*\*\* | 0.039\*\*\* |
|  | (0.012) | (0.012) | (0.012) |
| High school graduate | -0.109\*\*\* | -0.091\*\*\* | -0.084\*\*\* |
|  | (0.009) | (0.009) | (0.008) |
| College or higher | -0.161\*\*\* | -0.131\*\*\* | -0.122\*\*\* |
|  | (0.008) | (0.008) | (0.008) |
| Married | -0.018\* | 0.005 | 0.010 |
|  | (0.010) | (0.010) | (0.010) |
| Divorced/separated | 0.036\*\*\* | 0.018 | 0.023\* |
|  | (0.012) | (0.012) | (0.012) |
| Widowed | 0.038\*\*\* | 0.022\* | 0.032\*\*\* |
|  | (0.013) | (0.013) | (0.012) |
| Income quintile 2 |  | -0.086\*\*\* | -0.064\*\*\* |
|  |  | (0.009) | (0.009) |
| Income quintile 3 |  | -0.115\*\*\* | -0.090\*\*\* |
|  |  | (0.009) | (0.009) |
| Income quintile 4 |  | -0.133\*\*\* | -0.105\*\*\* |
|  |  | (0.009) | (0.009) |
| Income quintile 5 |  | -0.138\*\*\* | -0.109\*\*\* |
|  |  | (0.010) | (0.010) |
| Working |  |  | -0.011\* |
|  |  |  | (0.006) |
| Retired |  |  | -0.078\*\*\* |
|  |  |  | (0.006) |
| Unemployed |  |  | -0.015 |
|  |  |  | (0.017) |
| Disabled |  |  | 0.270\*\*\* |
|  |  |  | (0.020) |
| Constant | 2.174\*\* | 1.875\*\* | 1.180 |
|  | (0.913) | (0.911) | (0.916) |
| R-squared | 0.057 | 0.067 | 0.081 |
| Observations | 37,986 | 37,986 | 37,986 |
| Persons | 12,979 | 12,979 | 12,979 |
|  |  |  |  |
|  |  |  |  |
| **p-Value for F-test of statistical difference from Age 65 to 70 × Year 2004** | | | |
| Age 65–70 × Year 2006  Age 65–70 × Year 2008  Age 65–70 × Year 2010 |  | 0.1532  0.0220  0.0000 |  |

Regressions are weighted using survey weights and robust standard errors in parentheses are clustered at the individual level. Regressions also include dummies for census divisions of residence and for month of interview.

\* p < 0.10. \*\* p < 0.05. \*\*\* p < 0.01.

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |

**Table 5**

Impact of drug coverage on depression – IV model.

|  |  |  |  |
| --- | --- | --- | --- |
| Dep. Variable: | (1)  OLS  CESD | (2)  IV-First stage  Rx coverage | (3)  IV-Second stage CESD |
|  |  |  |  |
| Rx coverage | -0.099\*\* |  | -0.780\*\*\* |
|  | (0.047) |  | (0.137) |
| Age 65-70 # Post |  | 0.146\*\*\* |  |
|  |  | (0.010) |  |
| Age 65-70 | 0.115\*\* | -0.066\*\*\* | -0.006 |
|  | (0.046) | (0.010) | (0.021) |
| Post | -0.020 | -0.001 | 2.539\*\*\* |
|  | (0.026) | (0.007 | (0.014) |
| Age | -0.648\*\*\* | -0.037 | -0.467\*\*\* |
|  | (0.180) | (0.031) | (0.069) |
| Age squared | 0.005\*\*\* | 0.001 | 0.004\*\*\* |
|  | (0.001) | (0.001) | (0.001) |
| Male | -0.245\*\*\* | 0.023\*\*\* | -0.004 |
|  | (0.034) | (0.005) | (0.008) |
| Black | 0.092\* | 0.013\* | 0.059\*\*\* |
|  | (0.051) | (0.007) | (0.011) |
| Other race | 0.288\*\* | -0.001 | 0.055\*\* |
|  | (0.127) | (0.017) | (0.025) |
| Hispanic | 0.495\*\*\* | -0.033\*\*\* | 0.036\*\* |
|  | (0.081) | (0.011) | (0.015) |
| High school graduate | -0.690\*\*\* | -0.033\*\*\* | 0.064\*\*\* |
|  | (0.055) | (0.008) | (0.011) |
| College or higher | -0.977\*\*\* | 0.064\*\*\* | 0.135\*\*\* |
|  | (0.051) | (0.007) | (0.013) |
| Married | -0.413\*\*\* | 0.033\*\*\* | -0.048\*\*\* |
|  | (0.068) | (0.011) | (0.017) |
| Divorced/separated | 0.335\*\*\* | 0.016 | -0.035\* |
|  | (0.083) | (0.013) | (0.019) |
| Widowed | 0.226\*\*\* | 0.019 | -0.081\*\*\* |
|  | (0.084) | (0.013) | (0.020) |
| Constant | 24.317\*\*\* | 2.115\*\* | 22.749\*\*\* |
| F-statistic | (5.921) | (1.018) | (2.293)  286.200 |
| R-squared | 0.100 | 0.093 | 0.756 |
| Observations | 22,719 | 24,184 | 24,184 |
| Persons | 10355 |  | 10355 |

Regressions are weighted using survey weights and robust standard errors in parentheses are clustered at the individual level. Regressions also include dummies for census divisions of residence and for month of interview.

\* p < 0.10. \*\* p < 0.05. \*\*\* p < 0.01.

**Table 9**

Robustness check

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | | (3) | (4) | (5) | |
| DD coefficient | -0.153\*\*\*  (0.047) | | -0.149  (0.047) | -0.150\*\*\*  (0.046) | -0.243\*\*\*  (0.046) | | -0.091\*  (0.055) |
| Linear time trend | X | X | | X | X | | X |
| Wealth |  | X | | X | X | | X |
| Unemployment rate |  |  | | X | X | | X |
| Housing price index |  |  | | X | X | | X |
| Wealth × Post |  |  | |  | X | |  |
| Income quintiles × Post |  |  | |  | X | |  |
| Labor supply × Post |  |  | |  | X | |  |
| Marital status × Post Unemployment rate × Post Housing price index × Post    Wealth × Age 65–70  Income quintiles × Age65–70 Labor supply × Age 65–70  Marital status × Age 65–70  Unemployment rate × Age 65–70  Housing price index × Age 65–70 |  |  | |  | X  X  X | | X  X  X  X  X  X |

Regressions are weighted using survey weights and robust standard errors in parentheses are clustered at the individual level. Percentage changes in CESD relative to the pre-MMA mean are presented in square brackets. a p-Values for a Chow test of differences in the DD estimate across subsamples are presented in parentheses in Column 5.

\* p < 0.10. \*\* p < 0.05. \*\*\* p < 0.01.