**Subgroup analysis**

* For certain outcomes, experiencing OCS in addition to traditional ACE appeared to make the outcome worse than experiencing only ACE.
* In those cases, we would like to know whether being nonwhite or Hispanic, or being female, or being both (in addition to experiencing ACE and OCS) results in even worse outcomes.
* In the initial analysis we rely only on the weighting to make the groups (i.e., exposed to ACE and OCS vs. exposed to ACE alone) comparable in terms of covariates.
* The same set of analysis is repeated using regression to address any residual covariate imbalance (appendix)
  1. Nonwhite or Hispanic

| Predicted values by minority | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **ace\_ocs** | **minority** | **y** | **se** | **ci\_l** | **ci\_u** | **counts** |
| ACE | 0 | 3.89 | 0.1014 | 3.69 | 4.09 | 49 |
| ACE | 1 | 3.70 | 0.1476 | 3.41 | 3.99 | 19 |
| ACE + OCS | 0 | 3.52 | 0.0338 | 3.45 | 3.58 | 548 |
| ACE + OCS | 1 | 3.56 | 0.0315 | 3.50 | 3.62 | 694 |
| None | 0 | 3.93 | 0.0886 | 3.76 | 4.11 | 112 |
| None | 1 | 3.96 | 0.1344 | 3.70 | 4.23 | 43 |
| OCS | 0 | 3.72 | 0.0348 | 3.66 | 3.79 | 519 |
| OCS | 1 | 3.69 | 0.0383 | 3.61 | 3.76 | 522 |

| Test 'ACE + OCS' vs. 'ACE only' by minority | | | | |
| --- | --- | --- | --- | --- |
| **contrasts** | **coefficients** | **sigma** | **tstat** | **pvalues** |
| diff among white | -0.374 | 0.107 | -3.500 | 0.000647 |
| diff among minority | -0.143 | 0.151 | -0.945 | 0.376644 |
| did minority vs. white | 0.231 | 0.185 | 1.251 | 0.999603 |

Being nonwhite or Hispanic does not appear to worsen the outcome.

* 1. Hispanic

| Predicted values by hisp | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **ace\_ocs** | **hisp** | **y** | **se** | **ci\_l** | **ci\_u** | **counts** |
| ACE | 0 | 3.81 | 0.0922 | 3.63 | 3.99 | 58 |
| ACE | 1 | 3.78 | 0.2516 | 3.29 | 4.28 | 10 |
| ACE + OCS | 0 | 3.52 | 0.0272 | 3.47 | 3.57 | 903 |
| ACE + OCS | 1 | 3.59 | 0.0450 | 3.50 | 3.67 | 339 |
| None | 0 | 3.95 | 0.0801 | 3.79 | 4.11 | 138 |
| None | 1 | 3.92 | 0.2065 | 3.52 | 4.33 | 17 |
| OCS | 0 | 3.74 | 0.0279 | 3.69 | 3.80 | 818 |
| OCS | 1 | 3.57 | 0.0625 | 3.45 | 3.70 | 223 |

| Test 'ACE + OCS' vs. 'ACE only' by hisp | | | | |
| --- | --- | --- | --- | --- |
| **contrasts** | **coefficients** | **sigma** | **tstat** | **pvalues** |
| diff among nonhisp | -0.2916 | 0.0961 | -3.034 | 0.00294 |
| diff among hisp | -0.1992 | 0.2556 | -0.779 | 0.43041 |
| did hisp vs. nonhisp | 0.0923 | 0.2731 | 0.338 | 0.91456 |

Being Hispanic does not appear to worsen the outcome.

* 1. Black

| Predicted values by black | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **ace\_ocs** | **black** | **y** | **se** | **ci\_l** | **ci\_u** | **counts** |
| ACE | 0 | 3.82 | 0.1142 | 3.59 | 4.04 | 54 |
| ACE | 1 | 3.79 | 0.1482 | 3.50 | 4.08 | 14 |
| ACE + OCS | 0 | 3.53 | 0.0314 | 3.47 | 3.59 | 632 |
| ACE + OCS | 1 | 3.54 | 0.0350 | 3.47 | 3.61 | 610 |
| None | 0 | 3.96 | 0.0897 | 3.79 | 4.14 | 116 |
| None | 1 | 3.91 | 0.1397 | 3.64 | 4.19 | 39 |
| OCS | 0 | 3.73 | 0.0345 | 3.66 | 3.80 | 585 |
| OCS | 1 | 3.67 | 0.0378 | 3.60 | 3.75 | 456 |

| Test 'ACE + OCS' vs. 'ACE only' by race-ethnic group | | | | |
| --- | --- | --- | --- | --- |
| **contrasts** | **coefficients** | **sigma** | **tstat** | **pvalues** |
| diff among nonblack | -0.287 | 0.118 | -2.424 | 0.0204 |
| diff among black | -0.247 | 0.152 | -1.622 | 0.1288 |
| did black vs. nonblack | 0.040 | 0.193 | 0.208 | 0.9238 |

Being black does not appear to worsen the outcome.

1. Female

| Predicted values by female | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **ace\_ocs** | **female** | **y** | **se** | **ci\_l** | **ci\_u** | **counts** |
| ACE | 0 | 3.74 | 0.1122 | 3.52 | 3.96 | 30 |
| ACE | 1 | 3.87 | 0.1347 | 3.61 | 4.14 | 39 |
| ACE + OCS | 0 | 3.58 | 0.0335 | 3.52 | 3.65 | 613 |
| ACE + OCS | 1 | 3.48 | 0.0329 | 3.42 | 3.55 | 645 |
| None | 0 | 3.92 | 0.1030 | 3.71 | 4.12 | 81 |
| None | 1 | 3.98 | 0.1140 | 3.75 | 4.20 | 75 |
| OCS | 0 | 3.73 | 0.0350 | 3.67 | 3.80 | 540 |
| OCS | 1 | 3.68 | 0.0372 | 3.60 | 3.75 | 517 |

| Test 'ACE + OCS' vs. 'ACE only' by female | | | | |
| --- | --- | --- | --- | --- |
| **contrasts** | **coefficients** | **sigma** | **tstat** | **pvalues** |
| diff among male | -0.156 | 0.117 | -1.33 | 0.21819 |
| diff among female | -0.389 | 0.139 | -2.81 | 0.00665 |
| did female vs. male | -0.233 | 0.182 | -1.28 | 0.23628 |

Being Female appears to be associated with a worse outcome, but the difference is not significant.

* 1. Nonwhite or Hispanic & Female

| Predicted values by minority adn female | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ace\_ocs** | **minority** | **female** | **y** | **se** | **ci\_l** | **ci\_u** | **counts** |
| ACE | 0 | 0 | 3.71 | 0.1355 | 3.45 | 3.98 | 19 |
| ACE | 0 | 1 | 4.01 | 0.1345 | 3.75 | 4.27 | 30 |
| ACE | 1 | 0 | 3.76 | 0.1749 | 3.42 | 4.10 | 11 |
| ACE | 1 | 1 | 3.60 | 0.2820 | 3.05 | 4.16 | 8 |
| ACE + OCS | 0 | 0 | 3.59 | 0.0474 | 3.50 | 3.68 | 256 |
| ACE + OCS | 0 | 1 | 3.45 | 0.0479 | 3.35 | 3.54 | 292 |
| ACE + OCS | 1 | 0 | 3.59 | 0.0463 | 3.50 | 3.68 | 349 |
| ACE + OCS | 1 | 1 | 3.52 | 0.0427 | 3.44 | 3.61 | 345 |
| None | 0 | 0 | 3.88 | 0.0883 | 3.71 | 4.05 | 55 |
| None | 0 | 1 | 3.98 | 0.1552 | 3.68 | 4.29 | 57 |
| None | 1 | 0 | 3.96 | 0.2041 | 3.56 | 4.36 | 26 |
| None | 1 | 1 | 3.97 | 0.1696 | 3.63 | 4.30 | 17 |
| OCS | 0 | 0 | 3.71 | 0.0477 | 3.62 | 3.80 | 263 |
| OCS | 0 | 1 | 3.74 | 0.0508 | 3.64 | 3.84 | 256 |
| OCS | 1 | 0 | 3.76 | 0.0529 | 3.66 | 3.87 | 265 |
| OCS | 1 | 1 | 3.62 | 0.0547 | 3.51 | 3.72 | 257 |

| Test 'ACE + OCS' vs. 'ACE only' by minority and female | | | | |
| --- | --- | --- | --- | --- |
| **contrasts** | **coefficients** | **sigma** | **tstat** | **pvalues** |
| diff among white male | -0.1261 | 0.143 | -0.879 | 0.602023 |
| diff among minority male | -0.1708 | 0.181 | -0.944 | 0.563296 |
| diff among white female | -0.5613 | 0.143 | -3.931 | 0.000173 |
| diff among minority female | -0.0776 | 0.285 | -0.272 | 0.890327 |
| did 'minority female' vs. 'white male' | 0.0484 | 0.319 | 0.152 | 0.976531 |

Being nonwhite or Hispanic and Female does not appear to worsen the outcome (in fact the worst outcome is estimated among white females).

* 1. Hispanic & Female

| Predicted values by hisp adn female | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ace\_ocs** | **hisp** | **female** | **y** | **se** | **ci\_l** | **ci\_u** | **counts** |
| ACE | 0 | 0 | 3.81 | 0.1005 | 3.62 | 4.01 | 26 |
| ACE | 0 | 1 | 3.81 | 0.1528 | 3.51 | 4.11 | 32 |
| ACE | 1 | 0 | 3.48 | 0.1888 | 3.11 | 3.85 | 4 |
| ACE | 1 | 1 | 4.14 | 0.2175 | 3.71 | 4.56 | 6 |
| ACE + OCS | 0 | 0 | 3.58 | 0.0387 | 3.51 | 3.66 | 432 |
| ACE + OCS | 0 | 1 | 3.46 | 0.0381 | 3.39 | 3.54 | 471 |
| ACE + OCS | 1 | 0 | 3.61 | 0.0651 | 3.48 | 3.73 | 173 |
| ACE + OCS | 1 | 1 | 3.56 | 0.0616 | 3.44 | 3.68 | 166 |
| None | 0 | 0 | 3.97 | 0.1006 | 3.77 | 4.16 | 74 |
| None | 0 | 1 | 3.93 | 0.1256 | 3.69 | 4.18 | 64 |
| None | 1 | 0 | 3.69 | 0.3113 | 3.08 | 4.30 | 7 |
| None | 1 | 1 | 4.11 | 0.2485 | 3.62 | 4.60 | 10 |
| OCS | 0 | 0 | 3.75 | 0.0385 | 3.67 | 3.82 | 415 |
| OCS | 0 | 1 | 3.74 | 0.0403 | 3.66 | 3.81 | 403 |
| OCS | 1 | 0 | 3.68 | 0.0883 | 3.50 | 3.85 | 113 |
| OCS | 1 | 1 | 3.49 | 0.0869 | 3.32 | 3.66 | 110 |

| Test 'ACE + OCS' vs. 'ACE only' by hisp and female | | | | |
| --- | --- | --- | --- | --- |
| **contrasts** | **coefficients** | **sigma** | **tstat** | **pvalues** |
| diff among nonhisp male | -0.229 | 0.108 | -2.131 | 0.0713 |
| diff among hisp male | 0.130 | 0.200 | 0.651 | 0.9983 |
| diff among nonhisp female | -0.352 | 0.157 | -2.234 | 0.0555 |
| diff among hisp female | -0.576 | 0.226 | -2.549 | 0.0240 |
| did 'hisp female' vs. 'nonhisp male' | -0.347 | 0.250 | -1.385 | 0.3155 |

Being Hispanic and Female appears to be associated with a worse outcome, but the difference is not significant.

* 1. Black & Female

| Predicted values by black and female | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ace\_ocs** | **black** | **female** | **y** | **se** | **ci\_l** | **ci\_u** | **counts** |
| ACE | 0 | 0 | 3.62 | 0.1517 | 3.32 | 3.92 | 21 |
| ACE | 0 | 1 | 3.96 | 0.1286 | 3.71 | 4.22 | 33 |
| ACE | 1 | 0 | 3.88 | 0.1127 | 3.66 | 4.11 | 9 |
| ACE | 1 | 1 | 3.64 | 0.3352 | 2.98 | 4.30 | 5 |
| ACE + OCS | 0 | 0 | 3.55 | 0.0435 | 3.46 | 3.63 | 325 |
| ACE + OCS | 0 | 1 | 3.51 | 0.0452 | 3.42 | 3.60 | 307 |
| ACE + OCS | 1 | 0 | 3.66 | 0.0510 | 3.56 | 3.76 | 280 |
| ACE + OCS | 1 | 1 | 3.44 | 0.0469 | 3.35 | 3.53 | 330 |
| None | 0 | 0 | 3.87 | 0.0914 | 3.69 | 4.05 | 56 |
| None | 0 | 1 | 4.04 | 0.1459 | 3.76 | 4.33 | 60 |
| None | 1 | 0 | 3.97 | 0.1940 | 3.59 | 4.35 | 25 |
| None | 1 | 1 | 3.83 | 0.1875 | 3.46 | 4.19 | 14 |
| OCS | 0 | 0 | 3.73 | 0.0478 | 3.64 | 3.82 | 297 |
| OCS | 0 | 1 | 3.73 | 0.0497 | 3.63 | 3.82 | 288 |
| OCS | 1 | 0 | 3.74 | 0.0505 | 3.64 | 3.84 | 231 |
| OCS | 1 | 1 | 3.61 | 0.0551 | 3.50 | 3.72 | 225 |

| Test 'ACE + OCS' vs. 'ACE only' by black and female | | | | |
| --- | --- | --- | --- | --- |
| **contrasts** | **coefficients** | **sigma** | **tstat** | **pvalues** |
| diff among nonblack male | -0.0733 | 0.158 | -0.465 | 0.81628 |
| diff among black male | -0.2256 | 0.124 | -1.824 | 0.14146 |
| diff among nonblack female | -0.4553 | 0.136 | -3.339 | 0.00189 |
| diff among black female | -0.2000 | 0.338 | -0.591 | 0.75755 |
| did 'black female' vs. 'nonblack male' | -0.1267 | 0.373 | -0.339 | 0.86588 |

Being black and Female appears to be associated with a worse outcome, but the difference is far from significant.

**Appendix**

* We repeat the same analysis including the rest of the covariates in the regression.
* The approach is intended to address any residual imbalance after weighting between individuals exposed to ACE and OCS and ACE alone after weighting.
* The conclusion remains identical after addressing residual imbalances through regression.

A1.1. Nonwhite or Hispanic

| Adjusted predicted values (DR) by minority | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **ace\_ocs** | **minority** | **Est** | **SE** | **ci\_l** | **ci\_u** | **Freq** |
| ACE | 0 | 3.86 | 0.1036 | 3.65 | 4.06 | 49 |
| ACE | 1 | 3.78 | 0.1702 | 3.45 | 4.11 | 18 |
| ACE + OCS | 0 | 3.50 | 0.0360 | 3.43 | 3.57 | 495 |
| ACE + OCS | 1 | 3.60 | 0.0356 | 3.53 | 3.67 | 604 |
| None | 0 | 4.00 | 0.0683 | 3.86 | 4.13 | 110 |
| None | 1 | 3.96 | 0.1365 | 3.69 | 4.23 | 43 |
| OCS | 0 | 3.70 | 0.0350 | 3.63 | 3.77 | 492 |
| OCS | 1 | 3.71 | 0.0409 | 3.63 | 3.79 | 465 |

| Doubly Robust Test 'ACE + OCS' vs. 'ACE only' by minority | | | | |
| --- | --- | --- | --- | --- |
| **contrasts** | **coefficients** | **sigma** | **tstat** | **pvalues** |
| diff among white | -0.359 | 0.107 | -3.368 | 0.00113 |
| diff among minority | -0.184 | 0.162 | -1.136 | 0.28772 |
| did minority vs. white | 0.175 | 0.197 | 0.892 | 0.99576 |

A1.2. Hispanic

| Adjusted predicted values (DR) by Hispanic | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **ace\_ocs** | **hisp** | **Est** | **SE** | **ci\_l** | **ci\_u** | **Freq** |
| ACE | 0 | 3.79 | 0.0965 | 3.60 | 3.98 | 58 |
| ACE | 1 | 4.09 | 0.2278 | 3.64 | 4.53 | 9 |
| ACE + OCS | 0 | 3.51 | 0.0290 | 3.45 | 3.57 | 800 |
| ACE + OCS | 1 | 3.64 | 0.0514 | 3.54 | 3.74 | 299 |
| None | 0 | 3.98 | 0.0671 | 3.85 | 4.11 | 137 |
| None | 1 | 3.99 | 0.2795 | 3.44 | 4.54 | 16 |
| OCS | 0 | 3.72 | 0.0286 | 3.66 | 3.78 | 761 |
| OCS | 1 | 3.65 | 0.0686 | 3.52 | 3.78 | 196 |

| Doubly Robust Test 'ACE + OCS' vs. 'ACE only' by Hispanic | | | | |
| --- | --- | --- | --- | --- |
| **contrasts** | **coefficients** | **sigma** | **tstat** | **pvalues** |
| diff among nonhisp | -0.276 | 0.0973 | -2.838 | 0.00569 |
| diff among hisp | -0.448 | 0.2028 | -2.211 | 0.03260 |
| did hisp vs. nonhisp | -0.172 | 0.2271 | -0.759 | 0.45247 |

A2. Female

| Adjusted predicted values (DR) by female | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **ace\_ocs** | **female** | **Est** | **SE** | **ci\_l** | **ci\_u** | **Freq** |
| ACE | 0 | 3.82 | 0.1113 | 3.60 | 4.04 | 29 |
| ACE | 1 | 3.83 | 0.1425 | 3.55 | 4.11 | 38 |
| ACE + OCS | 0 | 3.59 | 0.0349 | 3.52 | 3.66 | 531 |
| ACE + OCS | 1 | 3.49 | 0.0350 | 3.42 | 3.56 | 568 |
| None | 0 | 3.93 | 0.1151 | 3.71 | 4.16 | 80 |
| None | 1 | 4.03 | 0.0940 | 3.85 | 4.22 | 73 |
| OCS | 0 | 3.72 | 0.0379 | 3.64 | 3.79 | 483 |
| OCS | 1 | 3.70 | 0.0370 | 3.62 | 3.77 | 474 |

| Doubly Robust Test 'ACE + OCS' vs. 'ACE only' by female | | | | |
| --- | --- | --- | --- | --- |
| **contrasts** | **coefficients** | **sigma** | **tstat** | **pvalues** |
| diff among male | -0.231 | 0.109 | -2.119 | 0.0441 |
| diff among female | -0.342 | 0.138 | -2.474 | 0.0177 |
| did female vs. male | -0.111 | 0.180 | -0.616 | 0.5558 |

A3.1. Nonwhite or Hispanic and Female

| Adjusted predicted values (DR) by minority and female | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ace\_ocs** | **female** | **black** | **Est** | **SE** | **ci\_l** | **ci\_u** | **Freq** |
| ACE | 0 | 0 | 3.84 | 0.1218 | 3.60 | 4.08 | 20 |
| ACE | 0 | 1 | 3.80 | 0.1150 | 3.57 | 4.03 | 9 |
| ACE | 1 | 0 | 3.85 | 0.1348 | 3.58 | 4.11 | 33 |
| ACE | 1 | 1 | 3.81 | 0.1674 | 3.48 | 4.14 | 5 |
| ACE + OCS | 0 | 0 | 3.61 | 0.0487 | 3.51 | 3.70 | 281 |
| ACE + OCS | 0 | 1 | 3.57 | 0.0631 | 3.45 | 3.69 | 250 |
| ACE + OCS | 1 | 0 | 3.51 | 0.0504 | 3.41 | 3.61 | 273 |
| ACE + OCS | 1 | 1 | 3.47 | 0.0612 | 3.35 | 3.59 | 295 |
| None | 0 | 0 | 3.95 | 0.1157 | 3.72 | 4.18 | 55 |
| None | 0 | 1 | 3.91 | 0.1325 | 3.65 | 4.17 | 25 |
| None | 1 | 0 | 4.05 | 0.0963 | 3.86 | 4.24 | 59 |
| None | 1 | 1 | 4.01 | 0.1127 | 3.79 | 4.23 | 14 |
| OCS | 0 | 0 | 3.73 | 0.0513 | 3.63 | 3.83 | 276 |
| OCS | 0 | 1 | 3.69 | 0.0644 | 3.57 | 3.82 | 207 |
| OCS | 1 | 0 | 3.71 | 0.0502 | 3.61 | 3.81 | 266 |
| OCS | 1 | 1 | 3.67 | 0.0645 | 3.55 | 3.80 | 208 |

| Doubly Robust Test 'ACE + OCS' vs. 'ACE only' by minority and female | | | | |
| --- | --- | --- | --- | --- |
| **contrasts** | **coefficients** | **sigma** | **tstat** | **pvalues** |
| diff among white male | -0.12095 | 0.147 | -0.8225 | 0.63467 |
| diff among minority male | -0.33660 | 0.146 | -2.2979 | 0.04760 |
| diff among white female | -0.53630 | 0.143 | -3.7545 | 0.00042 |
| diff among minority female | -0.00826 | 0.287 | -0.0288 | 0.95085 |
| did 'minority female' vs. 'white male' | 0.11269 | 0.320 | 0.3524 | 0.99097 |