Relative efficiency of estimator variants Shift down (-1/2 std. unit) No shift (0 std. units) Shift up (+1/2 std. unit) 0.9 0.8  $\frac{\sqrt{\mathsf{Af_efficient}}}{\mathsf{Vaf_{inefficient}}}$ 0.7 0.6 0.5 1600 2500 100 400 900 100 400 900 1600 2500 100 400 900 1600 2500 Sample size One-step w/ GLM
One-step w/ HAL
TMLE w/ GLM
TMLE w/ HAL