

**Figure S7.** **Increasing the true difference in ΔLTL.year-1 between smokers and non-smokers increased power compared to Figure S1.** Power as a function of measurement error for models 1 and 2. Data points represent the proportion of simulations yielding a p-value below 0.05 in 1000 replicate simulations. The left and right panels show the power in scenarios B and D respectively. The higher power at a CV of 16% seen with model 2 in scenario D reflects the bias in parameter estimates shown in Figure S5D. Power is generally high because of the large true effect size assumed in this simulation (-20 bp.year-1). The difference in LTLb between smokers and non-smokers in scenario D was LTLb 141 bp shorter in smokers.