

Supplementary material

1 Simulation settings

For all patients we observe covariates x_1, \dots, x_8 , of which 4 are continuous and 4 are binary. More specifically,

$$\begin{aligned}x_1, \dots, x_4 &\sim N(0, 1) \\x_5, \dots, x_8 &\sim B(1, 0.2)\end{aligned}$$

We first, generate the binary outcomes y for the untreated patients ($t_x = 0$), based on

$$P(y | \mathbf{x}, t_x = 0) = g(\beta_0 + \beta_1 x_1 + \dots + \beta_8 x_8) = g(lp_0), \quad (1)$$

where

$$g(x) = \frac{e^x}{1 + e^x}$$

For treated patients, outcomes are generated from:

$$P(y | \mathbf{x}, t_x = 1) = g(lp_1) \quad (2)$$

where

$$lp_1 = \gamma_2(lp_0 - c)^2 + \gamma_1(lp_0 - c) + \gamma_0$$

1.1 Base-case scenario

The base-case scenario assumes a constant odds ratio of 0.8 in favor of treatment. The simulated datasets are of size $n = 4250$, where treatment is allocated at random using a 50/50 split (80% power for the detection of an unadjusted OR of 0.8, assuming an event rate of 20% in the untreated arm). Outcome incidence in the untreated population is set at 20%. For the development of the prediction model we use the model defined in (1) including a constant treatment effect. When doing predictions, t_x is set to 0. The value of the true β is such that the above prediction model has an AUC of 0.75.

The previously defined targets are achieved when $\beta = (-2.08, 0.49, \dots, 0.49)^t$. For the derivations in the treatment arm we use $\gamma = (\log(0.8), 1, 0)^t$.

1.2 Deviations from base-case

We deviate from the base-case scenario in two ways. First, we alter the overall target settings of sample size, overall treatment effect and prediction model AUC. In a second stage, we consider settings that violate the assumption of a constant relative treatment effect, using a model-based approach.

For the first part, we consider:

- Sample size:

- $n = 1064$
- $n = 17000$

- Overall treatment effect:

- $OR = 0.5$
- $OR = 1$

- Prediction performance:

- $AUC = 0.65$
- $AUC = 0.85$

We set the true risk model coefficients to be $\beta = (-1.63, 0.26, \dots, 0.26)^t$ for $AUC = 0.65$ and $\beta = (-2.7, 0.82, \dots, 0.82)^t$ for $AUC = 0.85$. In both cases, β_0 is selected so that an event rate of 20% is maintained in the control arm.

For the second part linear and quadratic deviations from the assumption of constant relative effect are considered. We also consider different intensity levels of these deviations. The settings for these deviations are defined in Table S1 and result in the effects of Figure S1.

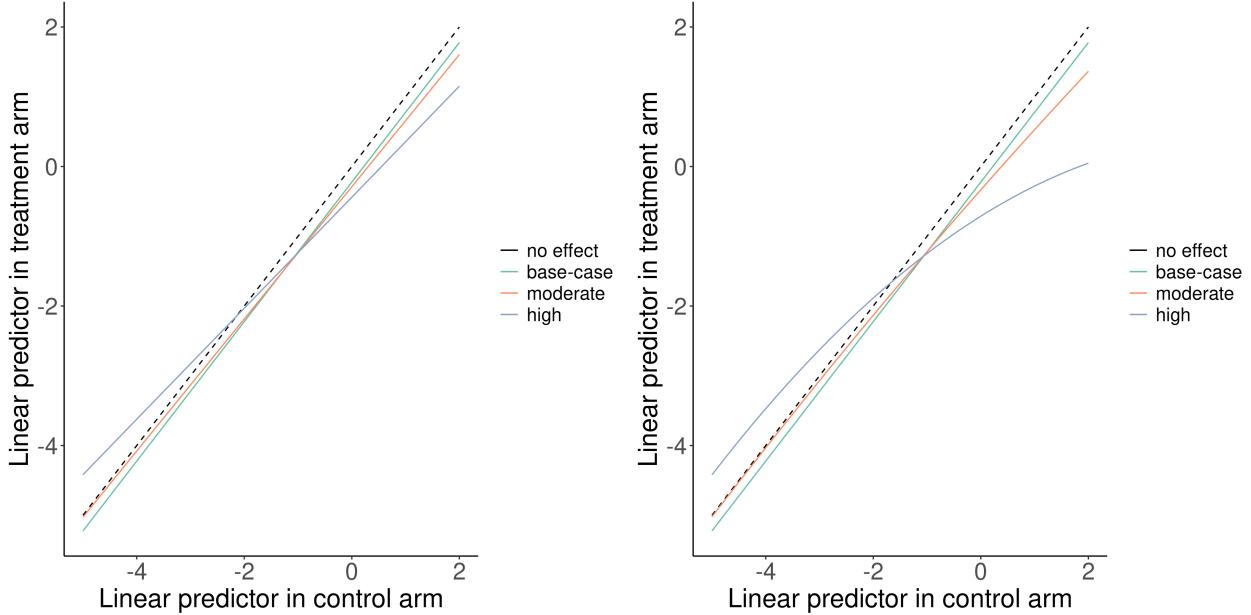


Figure S1: Linear and quadratic deviations from the base-case scenario of constant relative effect ($OR=0.8$)

In Figure S2 the absolute benefits observed based on different settings are presented. The base-case scenario is also presented as a reference.

Finally, we consider 3 additional scenarios of interaction of individual covariates with treatment. These scenarios include a 4 weak interactions ($OR_{t_x=1}/OR_{t_x=0} = 0.82$), 4 strong interactions ($OR_{t_x=1}/OR_{t_x=0} = 0.61$), and 2 weak and 2 strong interactions (Table ??).

1.3 Risk modeling

Merging treatment arms, we develop prediction models including a constant relative treatment effect:

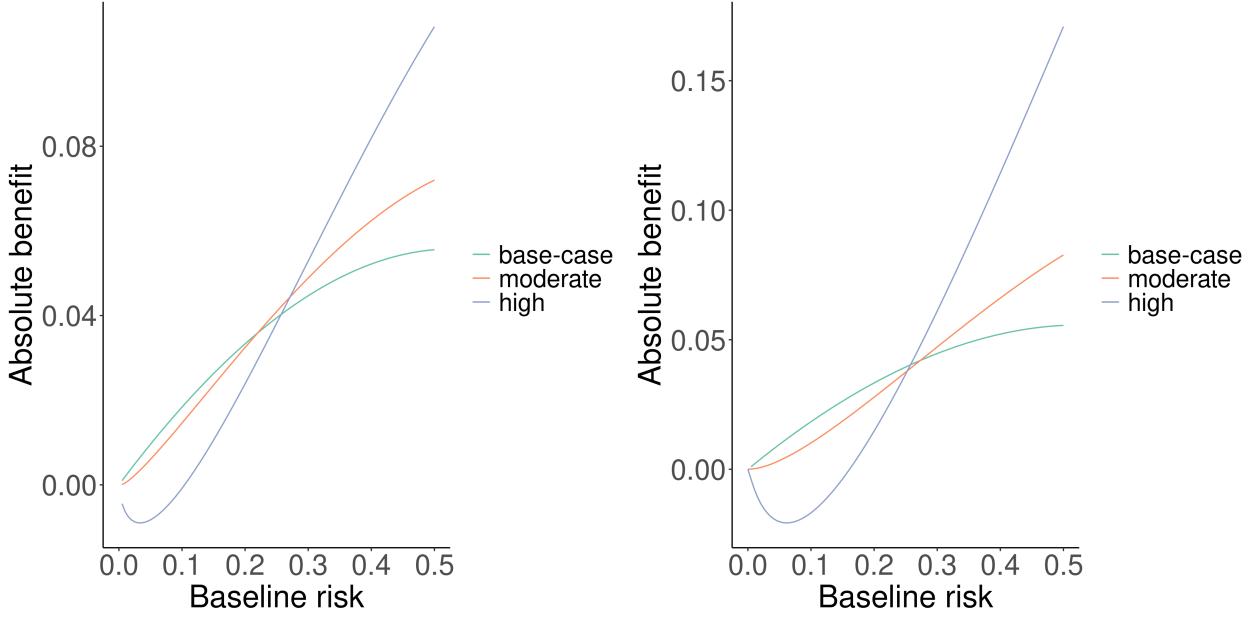


Figure S2: Linear and quadratic deviations from the base-case scenario of constant relative effect (OR=0.8)

$$E\{y | \mathbf{x}, t_x\} = P(y | \mathbf{x}, t_x) = g(\beta_0 + \beta_1 x_1 + \cdots + \beta_8 x_8 + \gamma t_x) \quad (3)$$

Individualized predictions are derived setting $t_x = 0$.

1.4 Approaches to individualize benefit predictions

1.4.1 Risk stratification

Derive a prediction model using the same approach as above and divide the population in equally sized risk-based subgroups. Estimate subgroup-specific absolute benefit from the observed absolute differences. Subject-specific benefit predictions are made by attributing to individuals their corresponding subgroup-specific estimate.

1.4.2 Constant treatment effect

Assuming a constant relative treatment effect, fit the adjusted model in (1.3). Then, an estimate of absolute benefit can be derived from

$$\hat{f}_{\text{benefit}}(lp | \mathbf{x}, \hat{\beta}) = g(lp) - g(lp + \hat{\gamma})$$

1.4.3 Linear interaction

The assumption of constant relative treatment effect is relaxed modeling a linear interaction of treatment with the risk linear predictor:

$$E\{y | \mathbf{x}, t_x, \hat{\beta}\} = g(lp + (\gamma_0 + \gamma_1 lp)t_x)$$

We predict absolute benefit from

$$\hat{f}_{\text{benefit}}(lp | \mathbf{x}, \hat{\beta}) = g(lp) - g(\gamma_0 + (1 + \gamma_1)lp)$$

1.4.4 Restricted cubic splines

Finally, we drop the linearity assumption and predict absolute benefit using smoothing with restricted cubic splines with 3, 4, and 5 knots. More specifically, we fit the model:

$$P(y = 1 \mid lp, t_x) = g(\beta_0 + \beta_{t_x} t_x + f_{RCS}(lp) + f_{RCS}(lp) \times t_x)$$

where

$$f_{RCS}(x) = \alpha_0 + \alpha_1 h_1(x) + \alpha_2 h_2(x) + \cdots + \alpha_{k-1} h_{k-1}(x)$$

with

$$h_{j+1}(x) = (x - t_j)^3 - (x - t_{k-1})_+ \frac{t_k - t_j}{t_k - t_{k-1}} + (x - t_k)_+^3 \frac{t_{k-1} - t_j}{t_k - t_{k-1}}$$

and t_1, \dots, t_k are the selected knots. We predict absolute benefit from

$$\hat{f}_{\text{benefit}}(lp \mid \mathbf{x}, \hat{\boldsymbol{\beta}}) = P(y = 1 \mid lp, t_x = 0) - P(y = 1 \mid lp, t_x = 1)$$

Table S1:

		Analysis ID				Baseline risk								True treatment effect				Benefit	
Scenario	Base	N	AUC	Treatment-related harm	b0	b1	b2	b3	b4	b5	b6	b7	b8	g0	g1	g2	c	Before harms	After harms
C	1	absent	4,250	0.75	absent	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.00	1.00	0.00	0	0.00	0.00
	2	absent	4,250	0.75	moderate-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.00	1.00	0.00	0	0.00	-0.01
	3	absent	4,250	0.75	strong-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.00	1.00	0.00	0	0.00	-0.02
	4	absent	4,250	0.75	negative	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.00	1.00	0.00	0	0.00	0.01
	5	absent	4,250	0.65	absent	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.00	1.00	0.00	0	0.00	0.00
	6	absent	4,250	0.65	moderate-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.00	1.00	0.00	0	0.00	-0.01
	7	absent	4,250	0.65	strong-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.00	1.00	0.00	0	0.00	-0.02
	8	absent	4,250	0.65	negative	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.00	1.00	0.00	0	0.00	0.01
	9	absent	4,250	0.85	absent	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.00	1.00	0.00	0	0.00	0.00
	10	absent	4,250	0.85	moderate-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.00	1.00	0.00	0	0.00	-0.01
	11	absent	4,250	0.85	strong-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.00	1.00	0.00	0	0.00	-0.02
	12	absent	4,250	0.85	negative	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.00	1.00	0.00	0	0.00	0.01
	13	absent	1,063	0.75	absent	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.00	1.00	0.00	0	0.00	0.00
	14	absent	1,063	0.75	moderate-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.00	1.00	0.00	0	0.00	-0.01
	15	absent	1,063	0.75	strong-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.00	1.00	0.00	0	0.00	-0.02
	16	absent	1,063	0.75	negative	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.00	1.00	0.00	0	0.00	0.01
	17	absent	1,063	0.65	absent	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.00	1.00	0.00	0	0.00	0.00
	18	absent	1,063	0.65	moderate-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.00	1.00	0.00	0	0.00	-0.01
	19	absent	1,063	0.65	strong-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.00	1.00	0.00	0	0.00	-0.02
	20	absent	1,063	0.65	negative	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.00	1.00	0.00	0	0.00	0.01
	21	absent	1,063	0.85	absent	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.00	1.00	0.00	0	0.00	0.00
	22	absent	1,063	0.85	moderate-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.00	1.00	0.00	0	0.00	-0.01
	23	absent	1,063	0.85	strong-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.00	1.00	0.00	0	0.00	-0.02
	24	absent	1,063	0.85	negative	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.00	1.00	0.00	0	0.00	0.01
	25	absent	17,000	0.75	absent	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.00	1.00	0.00	0	0.00	0.00
	26	absent	17,000	0.75	moderate-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.00	1.00	0.00	0	0.00	-0.01
	27	absent	17,000	0.75	strong-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.00	1.00	0.00	0	0.00	-0.02
	28	absent	17,000	0.75	negative	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.00	1.00	0.00	0	0.00	0.01
	29	absent	17,000	0.65	absent	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.00	1.00	0.00	0	0.00	0.00
	30	absent	17,000	0.65	moderate-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.00	1.00	0.00	0	0.00	-0.01
	31	absent	17,000	0.65	strong-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.00	1.00	0.00	0	0.00	-0.02
	32	absent	17,000	0.65	negative	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.00	1.00	0.00	0	0.00	0.01
	33	absent	17,000	0.85	absent	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.00	1.00	0.00	0	0.00	0.00
	34	absent	17,000	0.85	moderate-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.00	1.00	0.00	0	0.00	-0.01
	35	absent	17,000	0.85	strong-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.00	1.00	0.00	0	0.00	-0.02
	36	absent	17,000	0.85	negative	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.00	1.00	0.00	0	0.00	0.01
	37	absent	4,250	0.75	absent	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-0.06	0.95	0.00	0	0.00	0.00
	38	absent	4,250	0.75	moderate-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-0.06	0.95	0.00	0	0.00	-0.01
	39	absent	4,250	0.75	strong-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-0.06	0.95	0.00	0	0.00	-0.02
	40	absent	4,250	0.75	negative	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-0.06	0.95	0.00	0	0.00	0.01
	41	absent	4,250	0.65	absent	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-0.08	0.93	0.00	0	0.00	0.00

177	absent	17,000	0.85		absent	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-3.95	1.00	-0.06	-5	0.00	0.00
178	absent	17,000	0.85	moderate-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-3.95	1.00	-0.06	-5	0.00	-0.01	
179	absent	17,000	0.85	strong-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-3.95	1.00	-0.06	-5	0.00	-0.02	
180	absent	17,000	0.85	negative	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-3.95	1.00	-0.06	-5	0.00	0.01	
181	absent	4,250	0.75		absent	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	2.49	4.21	0.54	0	0.00	0.00
182	absent	4,250	0.75	moderate-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	2.49	4.21	0.54	0	0.00	-0.01	
183	absent	4,250	0.75	strong-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	2.49	4.21	0.54	0	0.00	-0.02	
184	absent	4,250	0.75	negative	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	2.49	4.21	0.54	0	0.00	0.01	
185	absent	4,250	0.65		absent	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	2.15	3.32	0.38	0	0.00	0.00
186	absent	4,250	0.65	moderate-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	2.15	3.32	0.38	0	0.00	-0.01	
187	absent	4,250	0.65	strong-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	2.15	3.32	0.38	0	0.00	-0.02	
188	absent	4,250	0.65	negative	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	2.15	3.32	0.38	0	0.00	0.01	
189	absent	4,250	0.85		absent	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	1.74	4.10	0.55	0	0.00	0.00
190	absent	4,250	0.85	moderate-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	1.74	4.10	0.55	0	0.00	-0.01	
191	absent	4,250	0.85	strong-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	1.74	4.10	0.55	0	0.00	-0.02	
192	absent	4,250	0.85	negative	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	1.74	4.10	0.55	0	0.00	0.01	
193	absent	1,063	0.75		absent	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	2.49	4.21	0.54	0	0.00	0.00
194	absent	1,063	0.75	moderate-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	2.49	4.21	0.54	0	0.00	-0.01	
195	absent	1,063	0.75	strong-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	2.49	4.21	0.54	0	0.00	-0.02	
196	absent	1,063	0.75	negative	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	2.49	4.21	0.54	0	0.00	0.01	
197	absent	1,063	0.65		absent	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	2.15	3.32	0.38	0	0.00	0.00
198	absent	1,063	0.65	moderate-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	2.15	3.32	0.38	0	0.00	-0.01	
199	absent	1,063	0.65	strong-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	2.15	3.32	0.38	0	0.00	-0.02	
200	absent	1,063	0.65	negative	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	2.15	3.32	0.38	0	0.00	0.01	
201	absent	1,063	0.85		absent	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	1.74	4.10	0.55	0	0.00	0.00
202	absent	1,063	0.85	moderate-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	1.74	4.10	0.55	0	0.00	-0.01	
203	absent	1,063	0.85	strong-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	1.74	4.10	0.55	0	0.00	-0.02	
204	absent	1,063	0.85	negative	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	1.74	4.10	0.55	0	0.00	0.01	
205	absent	17,000	0.75		absent	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	2.49	4.21	0.54	0	0.00	0.00
206	absent	17,000	0.75	moderate-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	2.49	4.21	0.54	0	0.00	-0.01	
207	absent	17,000	0.75	strong-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	2.49	4.21	0.54	0	0.00	-0.02	
208	absent	17,000	0.75	negative	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	2.49	4.21	0.54	0	0.00	0.01	
209	absent	17,000	0.65		absent	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	2.15	3.32	0.38	0	0.00	0.00
210	absent	17,000	0.65	moderate-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	2.15	3.32	0.38	0	0.00	-0.01	
211	absent	17,000	0.65	strong-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	2.15	3.32	0.38	0	0.00	-0.02	
212	absent	17,000	0.65	negative	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	2.15	3.32	0.38	0	0.00	0.01	
213	absent	17,000	0.85		absent	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	1.74	4.10	0.55	0	0.00	0.00
214	absent	17,000	0.85	moderate-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	1.74	4.10	0.55	0	0.00	-0.01	
215	absent	17,000	0.85	strong-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	1.74	4.10	0.55	0	0.00	-0.02	
216	absent	17,000	0.85	negative	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	1.74	4.10	0.55	0	0.00	0.01	
217	moderate	4,250	0.75		absent	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-0.22	1.00	0.00	0	0.03	0.03
218	moderate	4,250	0.75	moderate-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-0.22	1.00	0.00	0	0.03	0.02	
219	moderate	4,250	0.75	strong-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-0.22	1.00	0.00	0	0.03	0.02	
220	moderate	4,250	0.75	negative	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-0.22	1.00	0.00	0	0.03	0.04	
221	moderate	4,250	0.65		absent	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-0.22	1.00	0.00	0	0.03	0.03

402	moderate	4,250	0.65		moderate-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.48	1.78	0.14	0	0.03	0.02
403	moderate	4,250	0.65		strong-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.48	1.78	0.14	0	0.03	0.02
404	moderate	4,250	0.65		negative	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.48	1.78	0.14	0	0.03	0.04
405	moderate	4,250	0.85		absent	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.09	1.35	0.07	0	0.02	0.02
406	moderate	4,250	0.85		moderate-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.09	1.35	0.07	0	0.02	0.02
407	moderate	4,250	0.85		strong-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.09	1.35	0.07	0	0.02	0.02
408	moderate	4,250	0.85		negative	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.09	1.35	0.07	0	0.02	0.03
409	moderate	1,063	0.75		absent	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.17	1.56	0.11	0	0.03	0.03
410	moderate	1,063	0.75		moderate-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.17	1.56	0.11	0	0.03	0.02
411	moderate	1,063	0.75		strong-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.17	1.56	0.11	0	0.03	0.02
412	moderate	1,063	0.75		negative	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.17	1.56	0.11	0	0.03	0.04
413	moderate	1,063	0.65		absent	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.48	1.78	0.14	0	0.03	0.03
414	moderate	1,063	0.65		moderate-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.48	1.78	0.14	0	0.03	0.02
415	moderate	1,063	0.65		strong-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.48	1.78	0.14	0	0.03	0.02
416	moderate	1,063	0.65		negative	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.48	1.78	0.14	0	0.03	0.04
417	moderate	1,063	0.85		absent	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.09	1.35	0.07	0	0.02	0.02
418	moderate	1,063	0.85		moderate-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.09	1.35	0.07	0	0.02	0.02
419	moderate	1,063	0.85		strong-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.09	1.35	0.07	0	0.02	0.02
420	moderate	1,063	0.85		negative	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.09	1.35	0.07	0	0.02	0.03
421	moderate	17,000	0.75		absent	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.17	1.56	0.11	0	0.03	0.03
422	moderate	17,000	0.75		moderate-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.17	1.56	0.11	0	0.03	0.02
423	moderate	17,000	0.75		strong-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.17	1.56	0.11	0	0.03	0.02
424	moderate	17,000	0.75		negative	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.17	1.56	0.11	0	0.03	0.04
425	moderate	17,000	0.65		absent	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.48	1.78	0.14	0	0.03	0.03
426	moderate	17,000	0.65		moderate-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.48	1.78	0.14	0	0.03	0.02
427	moderate	17,000	0.65		strong-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.48	1.78	0.14	0	0.03	0.02
428	moderate	17,000	0.65		negative	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.48	1.78	0.14	0	0.03	0.04
429	moderate	17,000	0.85		absent	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.09	1.35	0.07	0	0.02	0.02
430	moderate	17,000	0.85		moderate-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.09	1.35	0.07	0	0.02	0.02
431	moderate	17,000	0.85		strong-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.09	1.35	0.07	0	0.02	0.02
432	moderate	17,000	0.85		negative	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.09	1.35	0.07	0	0.02	0.03
433	high	4,250	0.75		absent	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-0.69	1.00	0.00	0	0.08	0.08
434	high	4,250	0.75		moderate-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-0.69	1.00	0.00	0	0.08	0.06
435	high	4,250	0.75		strong-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-0.69	1.00	0.00	0	0.08	0.06
436	high	4,250	0.75		negative	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-0.69	1.00	0.00	0	0.08	0.10
437	high	4,250	0.65		absent	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-0.69	1.00	0.00	0	0.09	0.09
438	high	4,250	0.65		moderate-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-0.69	1.00	0.00	0	0.09	0.07
439	high	4,250	0.65		strong-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-0.69	1.00	0.00	0	0.09	0.07
440	high	4,250	0.65		negative	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-0.69	1.00	0.00	0	0.09	0.11
441	high	4,250	0.85		absent	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.69	1.00	0.00	0	0.07	0.07
442	high	4,250	0.85		moderate-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.69	1.00	0.00	0	0.07	0.05
443	high	4,250	0.85		strong-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.69	1.00	0.00	0	0.07	0.05
444	high	4,250	0.85		negative	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.69	1.00	0.00	0	0.07	0.09
445	high	1,063	0.75		absent	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-0.69	1.00	0.00	0	0.08	0.08
446	high	1,063	0.75		moderate-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-0.69	1.00	0.00	0	0.08	0.06

537	high	17,000	0.85		absent	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.84	0.78	0.00	0	0.07	0.07
538	high	17,000	0.85		moderate-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.84	0.78	0.00	0	0.07	0.05
539	high	17,000	0.85		strong-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.84	0.78	0.00	0	0.07	0.05
540	high	17,000	0.85		negative	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.84	0.78	0.00	0	0.07	0.09
541	high	4,250	0.75		absent	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-5.48	1.00	-0.01	-5	0.08	0.08
542	high	4,250	0.75		moderate-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-5.48	1.00	-0.01	-5	0.08	0.06
543	high	4,250	0.75		strong-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-5.48	1.00	-0.01	-5	0.08	0.06
544	high	4,250	0.75		negative	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-5.48	1.00	-0.01	-5	0.08	0.10
545	high	4,250	0.65		absent	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-5.46	1.00	-0.02	-5	0.09	0.09
546	high	4,250	0.65		moderate-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-5.46	1.00	-0.02	-5	0.09	0.07
547	high	4,250	0.65		strong-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-5.46	1.00	-0.02	-5	0.09	0.07
548	high	4,250	0.65		negative	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-5.46	1.00	-0.02	-5	0.09	0.11
549	high	4,250	0.85		absent	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-5.35	1.00	-0.02	-5	0.07	0.07
550	high	4,250	0.85		moderate-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-5.35	1.00	-0.02	-5	0.07	0.05
551	high	4,250	0.85		strong-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-5.35	1.00	-0.02	-5	0.07	0.05
552	high	4,250	0.85		negative	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-5.35	1.00	-0.02	-5	0.07	0.09
553	high	1,063	0.75		absent	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-5.48	1.00	-0.01	-5	0.08	0.08
554	high	1,063	0.75		moderate-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-5.48	1.00	-0.01	-5	0.08	0.06
555	high	1,063	0.75		strong-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-5.48	1.00	-0.01	-5	0.08	0.06
556	high	1,063	0.75		negative	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-5.48	1.00	-0.01	-5	0.08	0.10
557	high	1,063	0.65		absent	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-5.46	1.00	-0.02	-5	0.09	0.09
558	high	1,063	0.65		moderate-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-5.46	1.00	-0.02	-5	0.09	0.07
559	high	1,063	0.65		strong-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-5.46	1.00	-0.02	-5	0.09	0.07
560	high	1,063	0.65		negative	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-5.46	1.00	-0.02	-5	0.09	0.11
561	high	1,063	0.85		absent	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-5.35	1.00	-0.02	-5	0.07	0.07
562	high	1,063	0.85		moderate-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-5.35	1.00	-0.02	-5	0.07	0.05
563	high	1,063	0.85		strong-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-5.35	1.00	-0.02	-5	0.07	0.05
564	high	1,063	0.85		negative	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-5.35	1.00	-0.02	-5	0.07	0.09
565	high	17,000	0.75		absent	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-5.48	1.00	-0.01	-5	0.08	0.08
566	high	17,000	0.75		moderate-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-5.48	1.00	-0.01	-5	0.08	0.06
567	high	17,000	0.75		strong-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-5.48	1.00	-0.01	-5	0.08	0.06
568	high	17,000	0.75		negative	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-5.48	1.00	-0.01	-5	0.08	0.10
569	high	17,000	0.65		absent	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-5.46	1.00	-0.02	-5	0.09	0.09
570	high	17,000	0.65		moderate-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-5.46	1.00	-0.02	-5	0.09	0.07
571	high	17,000	0.65		strong-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-5.46	1.00	-0.02	-5	0.09	0.07
572	high	17,000	0.65		negative	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-5.46	1.00	-0.02	-5	0.09	0.11
573	high	17,000	0.85		absent	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-5.35	1.00	-0.02	-5	0.07	0.07
574	high	17,000	0.85		moderate-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-5.35	1.00	-0.02	-5	0.07	0.05
575	high	17,000	0.85		strong-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-5.35	1.00	-0.02	-5	0.07	0.05
576	high	17,000	0.85		negative	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-5.35	1.00	-0.02	-5	0.07	0.09
577	high	4,250	0.75		absent	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-4.86	1.00	-0.05	-5	0.08	0.08
578	high	4,250	0.75		moderate-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-4.86	1.00	-0.05	-5	0.08	0.06
579	high	4,250	0.75		strong-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-4.86	1.00	-0.05	-5	0.08	0.06
580	high	4,250	0.75		negative	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-4.86	1.00	-0.05	-5	0.08	0.10
581	high	4,250	0.65		absent	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-4.84	1.00	-0.06	-5	0.09	0.09

582	high	4,250	0.65	moderate-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-4.84	1.00	-0.06	-5	0.09	0.07
583	high	4,250	0.65	strong-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-4.84	1.00	-0.06	-5	0.09	0.07
584	high	4,250	0.65	negative	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-4.84	1.00	-0.06	-5	0.09	0.11
585	high	4,250	0.85	absent	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-4.51	1.00	-0.06	-5	0.07	0.07
586	high	4,250	0.85	moderate-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-4.51	1.00	-0.06	-5	0.07	0.05
587	high	4,250	0.85	strong-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-4.51	1.00	-0.06	-5	0.07	0.05
588	high	4,250	0.85	negative	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-4.51	1.00	-0.06	-5	0.07	0.09
589	high	1,063	0.75	absent	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-4.86	1.00	-0.05	-5	0.08	0.08
590	high	1,063	0.75	moderate-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-4.86	1.00	-0.05	-5	0.08	0.06
591	high	1,063	0.75	strong-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-4.86	1.00	-0.05	-5	0.08	0.06
592	high	1,063	0.75	negative	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-4.86	1.00	-0.05	-5	0.08	0.10
593	high	1,063	0.65	absent	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-4.84	1.00	-0.06	-5	0.09	0.09
594	high	1,063	0.65	moderate-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-4.84	1.00	-0.06	-5	0.09	0.07
595	high	1,063	0.65	strong-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-4.84	1.00	-0.06	-5	0.09	0.07
596	high	1,063	0.65	negative	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-4.84	1.00	-0.06	-5	0.09	0.11
597	high	1,063	0.85	absent	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-4.51	1.00	-0.06	-5	0.07	0.07
598	high	1,063	0.85	moderate-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-4.51	1.00	-0.06	-5	0.07	0.05
599	high	1,063	0.85	strong-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-4.51	1.00	-0.06	-5	0.07	0.05
600	high	1,063	0.85	negative	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-4.51	1.00	-0.06	-5	0.07	0.09
601	high	17,000	0.75	absent	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-4.86	1.00	-0.05	-5	0.08	0.08
602	high	17,000	0.75	moderate-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-4.86	1.00	-0.05	-5	0.08	0.06
603	high	17,000	0.75	strong-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-4.86	1.00	-0.05	-5	0.08	0.06
604	high	17,000	0.75	negative	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-4.86	1.00	-0.05	-5	0.08	0.10
605	high	17,000	0.65	absent	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-4.84	1.00	-0.06	-5	0.09	0.09
606	high	17,000	0.65	moderate-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-4.84	1.00	-0.06	-5	0.09	0.07
607	high	17,000	0.65	strong-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-4.84	1.00	-0.06	-5	0.09	0.07
608	high	17,000	0.65	negative	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-4.84	1.00	-0.06	-5	0.09	0.11
609	high	17,000	0.85	absent	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-4.51	1.00	-0.06	-5	0.07	0.07
610	high	17,000	0.85	moderate-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-4.51	1.00	-0.06	-5	0.07	0.05
611	high	17,000	0.85	strong-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-4.51	1.00	-0.06	-5	0.07	0.05
612	high	17,000	0.85	negative	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-4.51	1.00	-0.06	-5	0.07	0.09
613	high	4,250	0.75	absent	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-0.08	2.03	0.21	0	0.08	0.08
614	high	4,250	0.75	moderate-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-0.08	2.03	0.21	0	0.08	0.06
615	high	4,250	0.75	strong-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-0.08	2.03	0.21	0	0.08	0.06
616	high	4,250	0.75	negative	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-0.08	2.03	0.21	0	0.08	0.10
617	high	4,250	0.65	absent	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.79	2.76	0.32	0	0.09	0.09
618	high	4,250	0.65	moderate-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.79	2.76	0.32	0	0.09	0.07
619	high	4,250	0.65	strong-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.79	2.76	0.32	0	0.09	0.07
620	high	4,250	0.65	negative	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.79	2.76	0.32	0	0.09	0.11
621	high	4,250	0.85	absent	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.62	1.57	0.14	0	0.07	0.07
622	high	4,250	0.85	moderate-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.62	1.57	0.14	0	0.07	0.05
623	high	4,250	0.85	strong-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.62	1.57	0.14	0	0.07	0.05
624	high	4,250	0.85	negative	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.62	1.57	0.14	0	0.07	0.09
625	high	1,063	0.75	absent	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-0.08	2.03	0.21	0	0.08	0.08
626	high	1,063	0.75	moderate-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-0.08	2.03	0.21	0	0.08	0.06

627	high	1,063	0.75		strong-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-0.08	2.03	0.21	0	0.08	0.06
628	high	1,063	0.75		negative	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-0.08	2.03	0.21	0	0.08	0.10
629	high	1,063	0.65		absent	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.79	2.76	0.32	0	0.09	0.09
630	high	1,063	0.65		moderate-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.79	2.76	0.32	0	0.09	0.07
631	high	1,063	0.65		strong-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.79	2.76	0.32	0	0.09	0.07
632	high	1,063	0.65		negative	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.79	2.76	0.32	0	0.09	0.11
633	high	1,063	0.85		absent	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.62	1.57	0.14	0	0.07	0.07
634	high	1,063	0.85		moderate-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.62	1.57	0.14	0	0.07	0.05
635	high	1,063	0.85		strong-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.62	1.57	0.14	0	0.07	0.05
636	high	1,063	0.85		negative	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.62	1.57	0.14	0	0.07	0.09
637	high	17,000	0.75		absent	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-0.08	2.03	0.21	0	0.08	0.08
638	high	17,000	0.75		moderate-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-0.08	2.03	0.21	0	0.08	0.06
639	high	17,000	0.75		strong-positive	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-0.08	2.03	0.21	0	0.08	0.06
640	high	17,000	0.75		negative	-2.08	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	-0.08	2.03	0.21	0	0.08	0.10
641	high	17,000	0.65		absent	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.79	2.76	0.32	0	0.09	0.09
642	high	17,000	0.65		moderate-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.79	2.76	0.32	0	0.09	0.07
643	high	17,000	0.65		strong-positive	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.79	2.76	0.32	0	0.09	0.07
644	high	17,000	0.65		negative	-1.63	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.79	2.76	0.32	0	0.09	0.11
645	high	17,000	0.85		absent	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.62	1.57	0.14	0	0.07	0.07
646	high	17,000	0.85		moderate-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.62	1.57	0.14	0	0.07	0.05
647	high	17,000	0.85		strong-positive	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.62	1.57	0.14	0	0.07	0.05
648	high	17,000	0.85		negative	-2.70	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-0.62	1.57	0.14	0	0.07	0.09

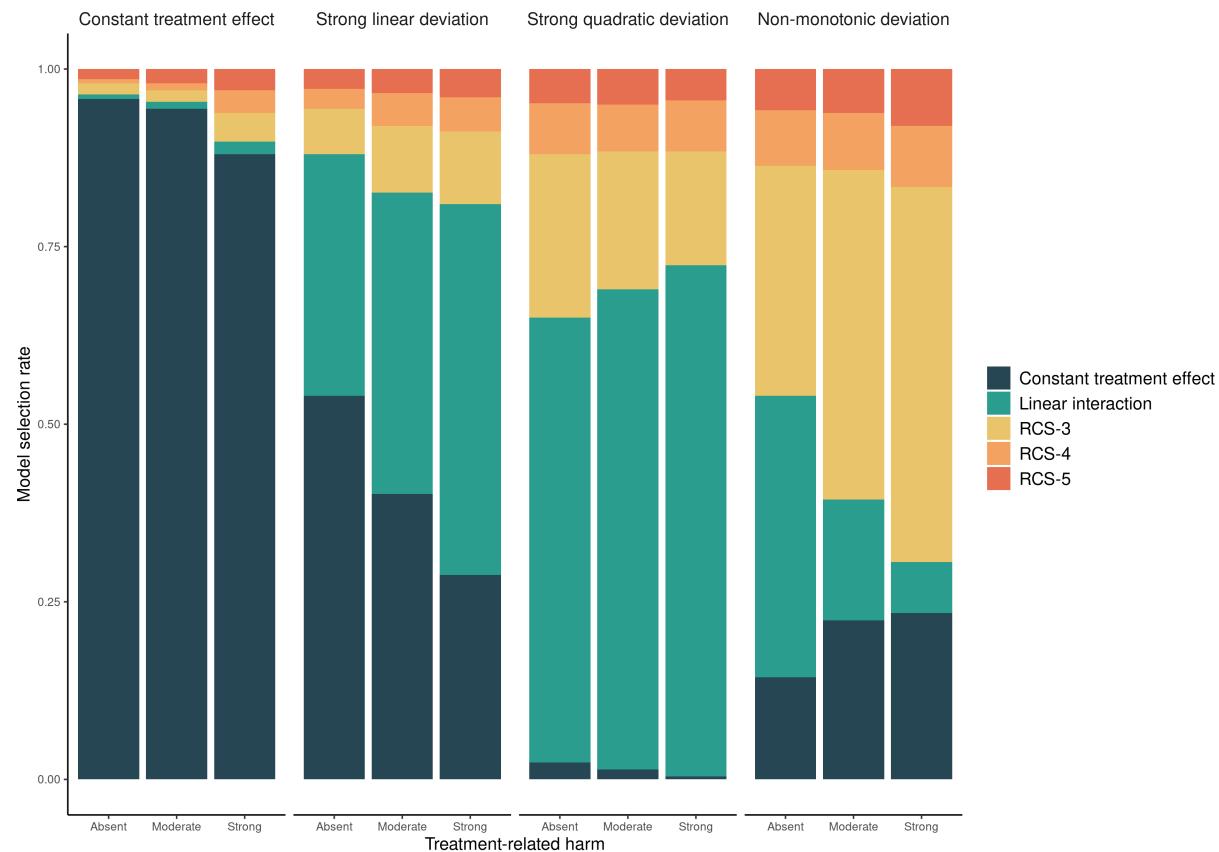


Figure S3: Adaptive model selection rates for the base case scenario true prediction AUC of 0.75, sample size of 4250

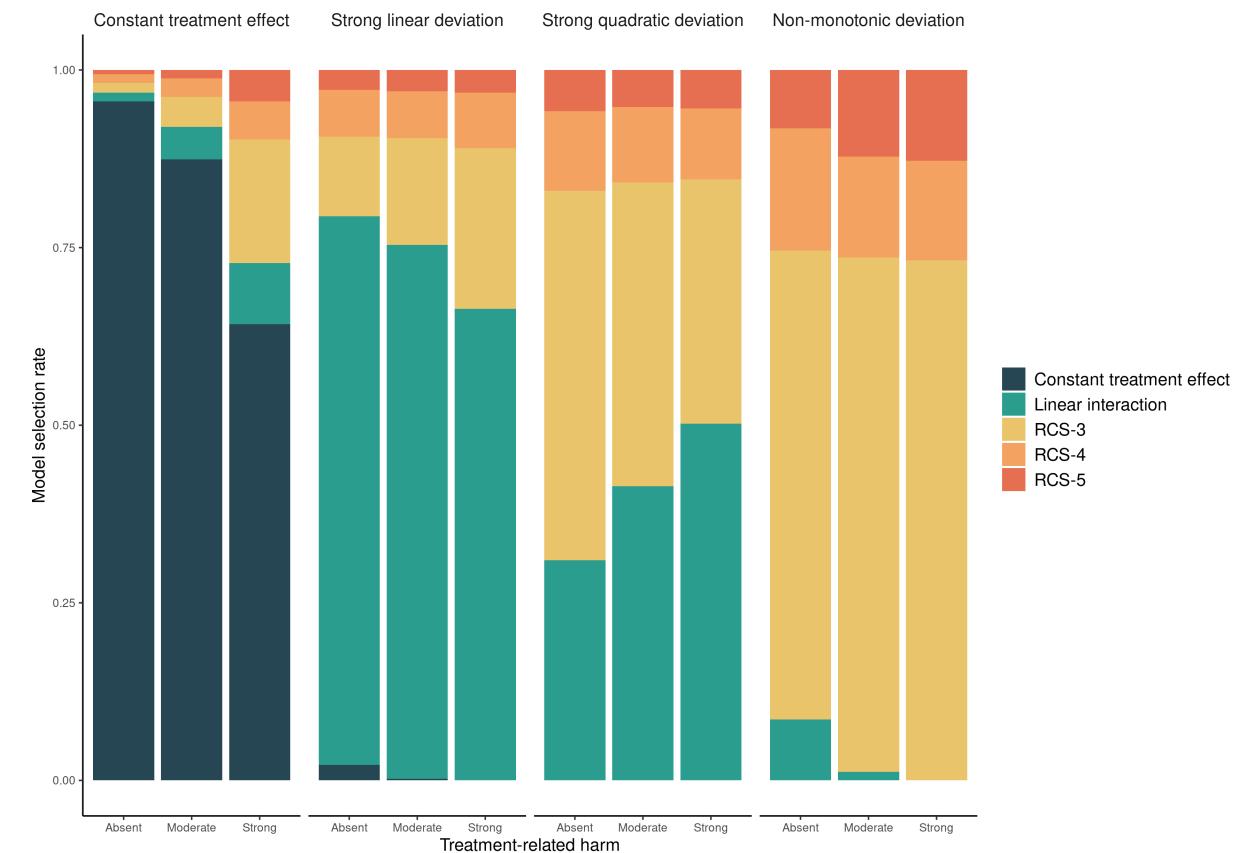


Figure S4: Adaptive model selection rates for sample size of 17000.

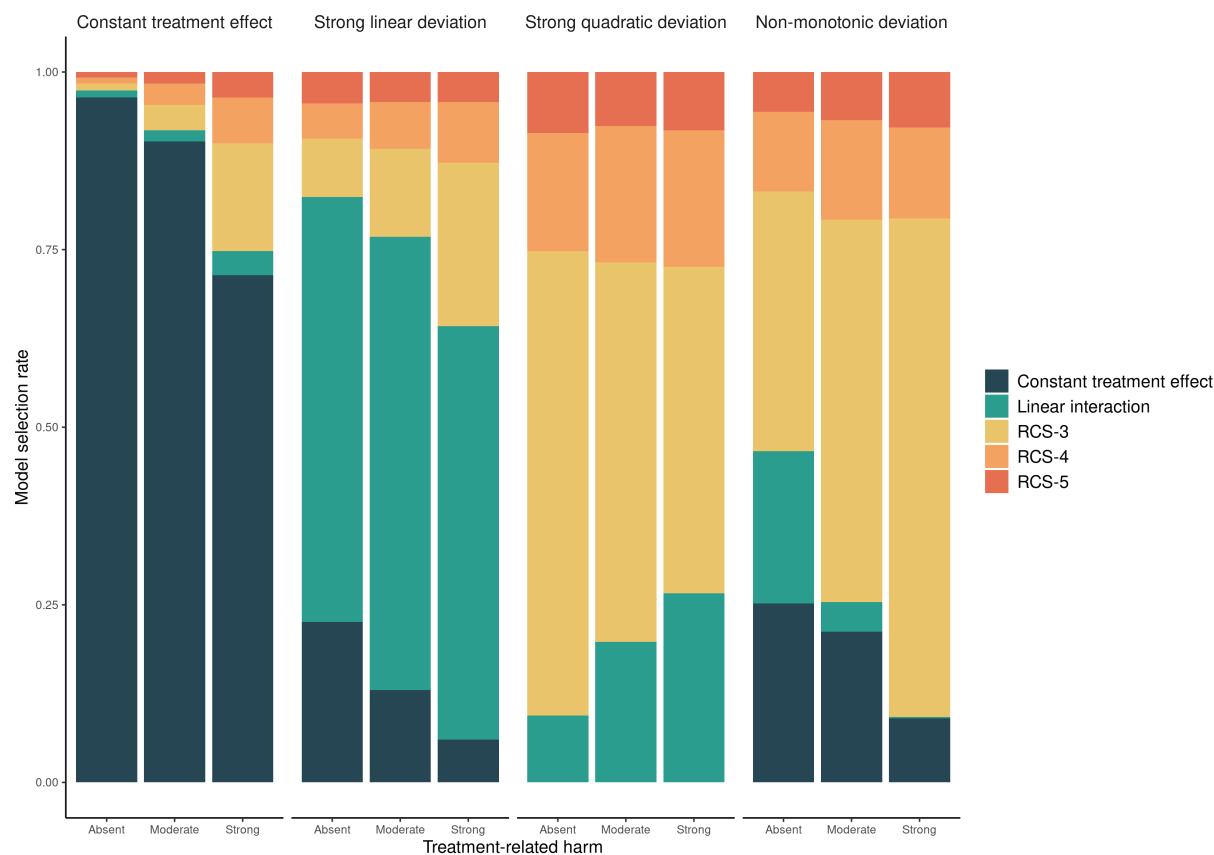


Figure S5: Adaptive model selection rates for true prediction AUC of 0.85.

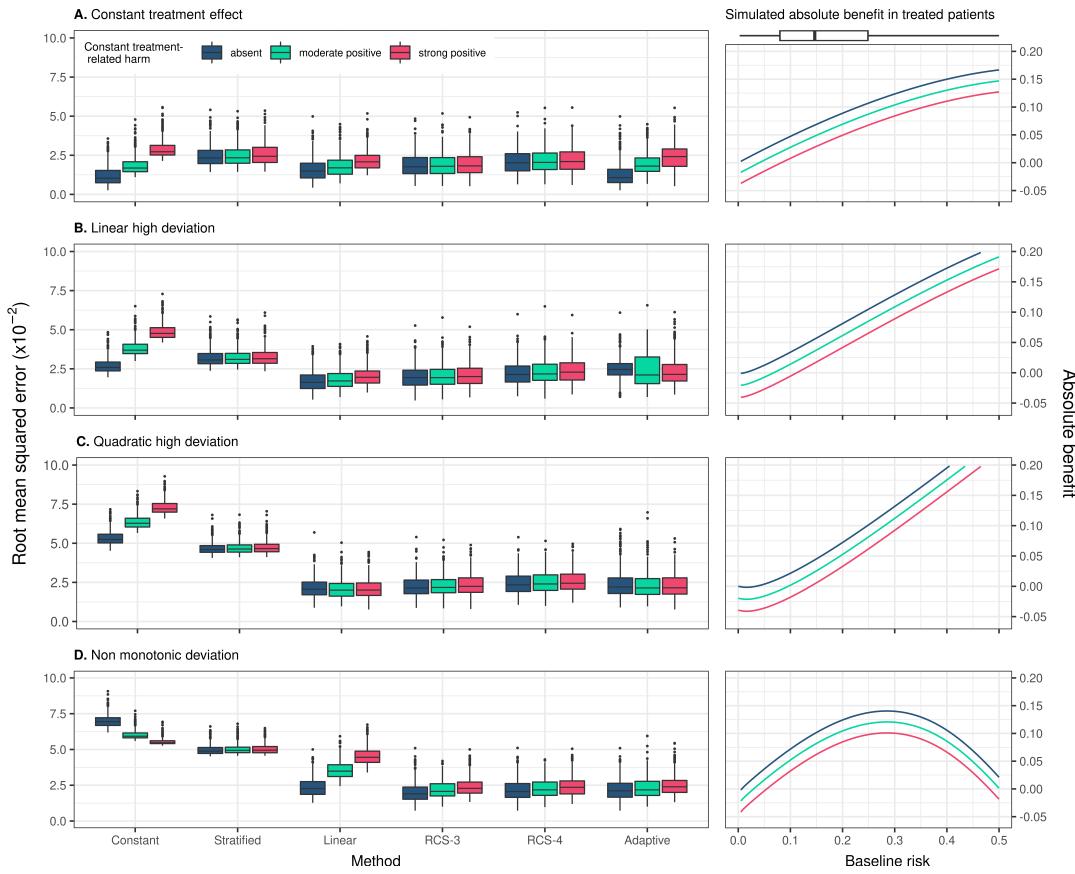


Figure S6: RMSE high effect base

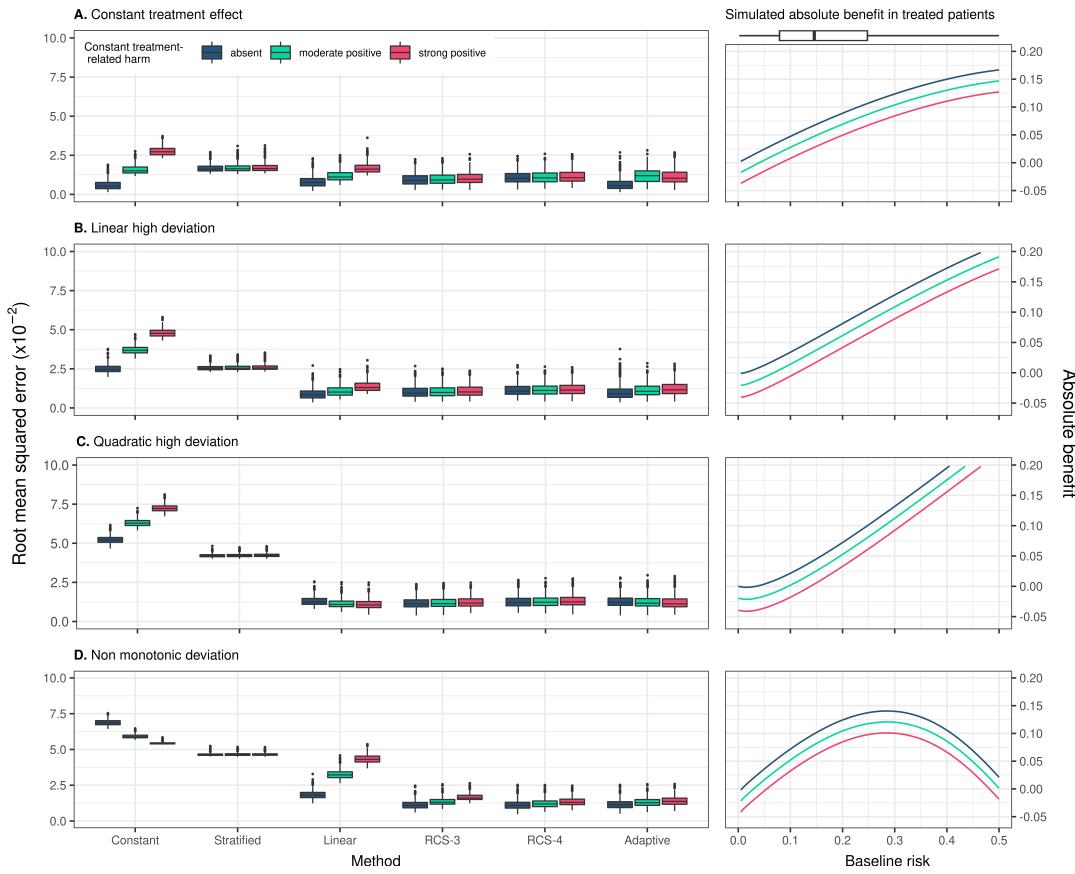


Figure S7: RMSE high effect sample size

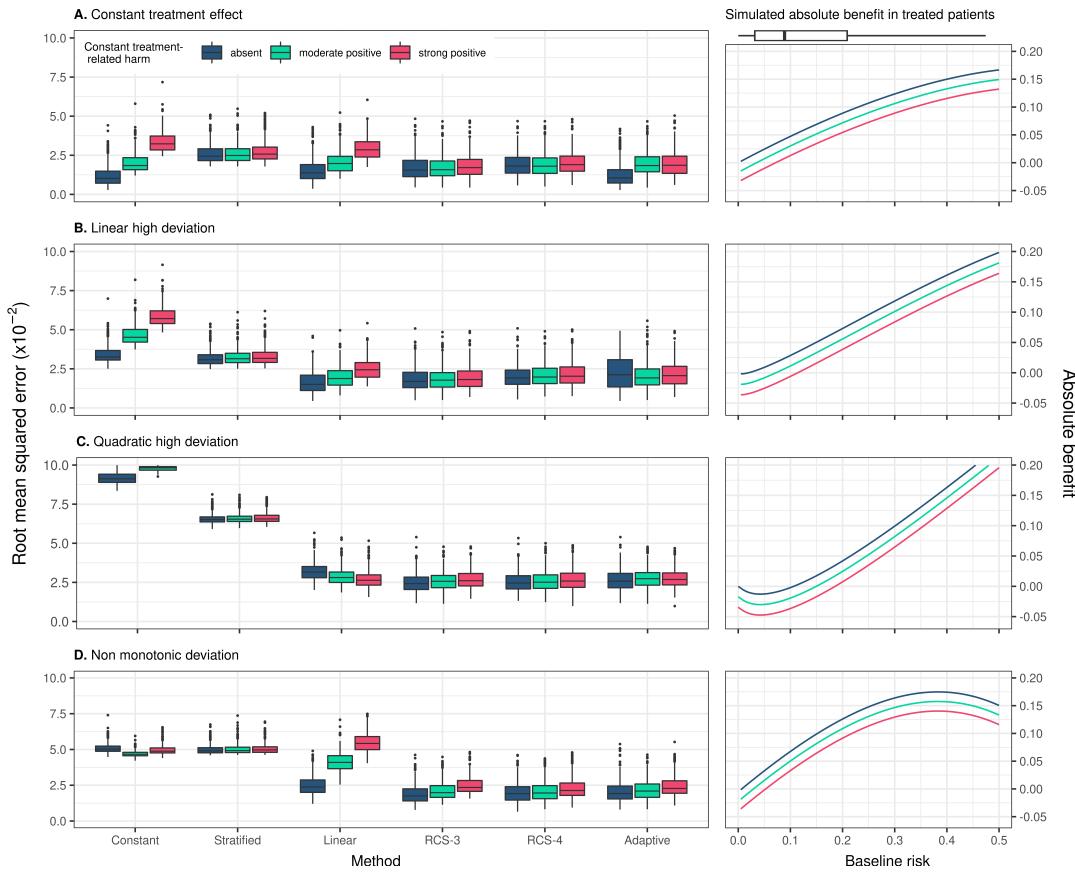


Figure S8: RMSE high effect auc