### Summary of validation results

March 30, 2022

#### Introduction and notation

Simulated power intervals. The Monte Carlo simulations produce a 95% confidence interval, and we check whether that interval contains the PUMP estimates. In other words, we check if  $\hat{p}_{pump}$  is within  $\hat{p}_{sim} \pm 1.96\sqrt{0.25/5000}$ .

**Simulated power point estimates.** We compare the point estimates from the simulations to PUMP. To do so, we calculate the absolute difference between the power estimates from the simulations and from PUMP:

$$b_{sim} = |\hat{p}_{sim} - \hat{p}_{pump}|.$$

**PowerUpR power point estimates**. We compare the point estimates from the PowerUpR to PUMP. This comparison is only conducted for individual, unadjusted power. Similar to the last metric, we calculate the absolute difference between the power estimates from PowerUpR and from PUMP:

$$b_{pow} = |\hat{p}_{pow} - \hat{p}_{pump}|.$$

**PUMP mdes point estimates.** We summarize the MDES performance by calculating the absolute difference between the PUMP estimate and the target MDES.

$$b_{mdes} = |\hat{m}_{pump} - \hat{m}_{target}|.$$

# Summary of validation coverage results

d_m	MTP	power_type	cover
d2.1_m2fc	BF	D1indiv	1
$d2.1\_m2fc$	$_{ m BF}$	indiv.mean	1
$d2.1\_m2fc$	$\operatorname{BF}$	$\min 1$	1
$d2.1\_m2fc$	$\operatorname{BF}$	complete	1
$d2.1\_m2fc$	$_{ m BF}$	D2indiv	1
$d2.1\_m2fc$	$_{ m BF}$	D3indiv	1
$d2.1\_m2fc$	$\operatorname{BF}$	$\min 2$	1
$d2.1\_m2fc$	ВН	D1indiv	1
$d2.1\_m2fc$	BH	indiv.mean	1
$d2.1\_m2fc$	BH	$\min 1$	1
$d2.1\_m2fc$	BH	complete	1
$d2.1\_m2fc$	BH	D2indiv	1
$d2.1\_m2fc$	BH	D3indiv	1
$d2.1\_m2fc$	BH	$\min 2$	1
$d2.1\_m2fc$	НО	D1indiv	1
$d2.1\_m2fc$	HO	indiv.mean	1
$d2.1\_m2fc$	HO	$\min 1$	1
$d2.1\_m2fc$	HO	complete	1
$d2.1\_m2fc$	HO	D2indiv	1
$d2.1\_m2fc$	HO	D3indiv	1
$d2.1\_m2fc$	НО	$\min 2$	1
$d2.1\_m2fc$	None	D1indiv	1
$d2.1\_m2fc$	None	indiv.mean	1
$d2.1\_m2fc$	None	$\min 1$	_
$d2.1\_m2fc$	None	complete	_
$d2.1\_m2fc$	None	D2indiv	1
$d2.1\_m2fc$	None	D3indiv	1
$d2.1\_m2fc$	None	$\min 2$	_

d_m	MTP	power_type	cover
$d2.1_m2ff$	$_{ m BF}$	D1indiv	1
$d2.1\_m2ff$	$_{ m BF}$	indiv.mean	1
$d2.1\_m2ff$	$_{ m BF}$	$\min 1$	1
$d2.1\_m2ff$	$_{\mathrm{BF}}$	complete	1
$d2.1\_m2ff$	$_{ m BF}$	D2indiv	1
$d2.1\_m2ff$	$\operatorname{BF}$	D3indiv	1
$d2.1\_m2ff$	BF	$\min 2$	1
$d2.1\_m2ff$	BH	D1indiv	1
$d2.1\_m2ff$	BH	indiv.mean	1
$d2.1\_m2ff$	BH	$\min 1$	1
$d2.1\_m2ff$	BH	complete	1
$d2.1\_m2ff$	BH	D2indiv	1
$d2.1\_m2ff$	BH	D3indiv	1
$\rm d2.1\_m2ff$	BH	$\min 2$	1
$d2.1\_m2ff$	НО	D1indiv	1
$d2.1\_m2ff$	HO	indiv.mean	1
$d2.1\_m2ff$	HO	$\min 1$	1
$d2.1\_m2ff$	HO	complete	1
$d2.1\_m2ff$	HO	D2indiv	1
$d2.1\_m2ff$	HO	D3indiv	1
$d2.1\_m2ff$	НО	$\min 2$	1
$d2.1\_m2ff$	None	D1indiv	1
$d2.1\_m2ff$	None	indiv.mean	1
$d2.1\_m2ff$	None	$\min 1$	_
$d2.1\_m2ff$	None	complete	_
$d2.1\_m2ff$	None	D2indiv	1
$d2.1\_m2ff$	None	D3indiv	1
$d2.1_m2ff$	None	$\min 2$	_

	MTP	power_type	cover
d2.1 m2fr	BF	D1indiv	0.875
d2.1 m2fr	$\operatorname{BF}$	indiv.mean	0.875
d2.1 $m2fr$	$\operatorname{BF}$	$\min 1$	0.750
$d2.1$ _m2fr	$\operatorname{BF}$	complete	0.875
$d2.1\_m2fr$	$\operatorname{BF}$	D2indiv	0.875
$d2.1\_m2fr$	$_{ m BF}$	D3indiv	0.875
$d2.1\_m2fr$	$\operatorname{BF}$	$\min 2$	0.750
$d2.1\_m2fr$	ВН	D1indiv	0.750
$d2.1\_m2fr$	BH	indiv.mean	0.750
$d2.1\_m2fr$	BH	$\min 1$	0.750
$d2.1\_m2fr$	BH	complete	1.000
$d2.1\_m2fr$	BH	D2indiv	0.875
$d2.1\_m2fr$	BH	D3indiv	0.750
$d2.1\_m2fr$	BH	$\min 2$	0.750
$d2.1\_m2fr$	НО	D1indiv	0.750
$d2.1\_m2fr$	HO	indiv.mean	0.750
$d2.1\_m2fr$	HO	$\min 1$	0.750
$d2.1\_m2fr$	HO	complete	1.000
$d2.1\_m2fr$	HO	D2indiv	0.875
$d2.1\_m2fr$	НО	D3indiv	0.750
$d2.1\_m2fr$	НО	$\min 2$	0.750
$d2.1\_m2fr$	None	D1indiv	0.750
$d2.1\_m2fr$	None	indiv.mean	0.750
$d2.1\_m2fr$	None	$\min 1$	_
$d2.1\_m2fr$	None	complete	_
$d2.1\_m2fr$	None	D2indiv	0.875
$d2.1\_m2fr$	None	D3indiv	0.750
d2.1_m2fr	None	$\min 2$	_

d_m	MTP	power_type	cover
d2.2_m2rc	BF	D1indiv	1
$d2.2\_m2rc$	$\operatorname{BF}$	indiv.mean	1
$d2.2\_m2rc$	$\operatorname{BF}$	$\min 1$	1
$d2.2\_m2rc$	$_{ m BF}$	complete	_
$d2.2\_m2rc$	$_{ m BF}$	D2indiv	1
$d2.2\_m2rc$	$_{ m BF}$	D3indiv	1
$d2.2\_m2rc$	BF	$\min 2$	1
$d2.2\_m2rc$	BH	D1indiv	1
$d2.2\_m2rc$	BH	indiv.mean	1
$d2.2\_m2rc$	BH	$\min 1$	1
$d2.2\_m2rc$	BH	complete	_
$d2.2\_m2rc$	BH	D2indiv	1
$d2.2\_m2rc$	BH	D3indiv	1
$d2.2\_m2rc$	BH	$\min 2$	1
$d2.2\_m2rc$	НО	D1indiv	1
$d2.2\_m2rc$	НО	indiv.mean	1
$d2.2\_m2rc$	HO	$\min 1$	1
$d2.2\_m2rc$	НО	complete	_
$d2.2\_m2rc$	НО	D2indiv	1
$d2.2\_m2rc$	HO	D3indiv	1
$d2.2\_m2rc$	НО	$\min 2$	1
$d2.2\_m2rc$	None	D1indiv	1
$d2.2\_m2rc$	None	indiv.mean	1
$d2.2\_m2rc$	None	$\min 1$	_
$\rm d2.2\_m2rc$	None	complete	_
$\rm d2.2\_m2rc$	None	D2indiv	1
$\rm d2.2\_m2rc$	None	D3indiv	1
$d2.2\_m2rc$	None	$\min 2$	-

d_m	MTP	power_type	cover
d3.1_m3rr2rr	BF	D1indiv	1
$d3.1\_m3rr2rr$	$_{ m BF}$	indiv.mean	1
$d3.1\_m3rr2rr$	$_{ m BF}$	$\min 1$	1
$d3.1\_m3rr2rr$	$_{ m BF}$	complete	_
$d3.1\_m3rr2rr$	$_{ m BF}$	D2indiv	1
$d3.1\_m3rr2rr$	$_{ m BF}$	D3indiv	1
$d3.1\_m3rr2rr$	BF	$\min 2$	1
$d3.1_m3rr2rr$	ВН	D1indiv	1
$d3.1\_m3rr2rr$	BH	indiv.mean	1
$d3.1\_m3rr2rr$	BH	$\min 1$	1
$d3.1\_m3rr2rr$	BH	complete	_
$d3.1\_m3rr2rr$	BH	D2indiv	1
$d3.1\_m3rr2rr$	BH	D3indiv	1
$d3.1_m3rr2rr$	BH	$\min 2$	1
$d3.1$ _m3rr2rr	НО	D1indiv	1
$d3.1\_m3rr2rr$	НО	indiv.mean	1
$d3.1\_m3rr2rr$	НО	$\min 1$	1
$d3.1\_m3rr2rr$	HO	complete	_
$d3.1\_m3rr2rr$	НО	D2indiv	1
$d3.1\_m3rr2rr$	НО	D3indiv	1
$d3.1$ _m3rr2rr	НО	$\min 2$	1
$d3.1$ _m3rr2rr	None	D1indiv	1
$d3.1\_m3rr2rr$	None	indiv.mean	1
$d3.1\_m3rr2rr$	None	$\min 1$	_
$d3.1\_m3rr2rr$	None	complete	_
$d3.1\_m3rr2rr$	None	D2indiv	1
$d3.1\_m3rr2rr$	None	D3indiv	1
$d3.1_m3rr2rr$	None	$\min 2$	_

d_m	MTP	power_type	cover
d3.2_m3ff2rc	BF	D1indiv	1
$d3.2$ _m3ff2rc	$_{\mathrm{BF}}$	indiv.mean	1
$d3.2$ _m3ff2rc	$_{ m BF}$	$\min 1$	1
$d3.2$ _m3ff2rc	$_{ m BF}$	complete	_
$d3.2$ _m3ff2rc	$_{ m BF}$	D2indiv	1
$d3.2$ _m3ff2rc	$_{ m BF}$	D3indiv	1
$d3.2\_m3ff2rc$	BF	$\min 2$	1
$d3.2$ _m3ff2rc	BH	D1indiv	1
$d3.2$ _m3ff2rc	BH	indiv.mean	1
$d3.2$ _m3ff2rc	BH	$\min 1$	1
$d3.2$ _m3ff2rc	BH	complete	_
$d3.2$ _m3ff2rc	BH	D2indiv	1
$d3.2$ _m3ff2rc	BH	D3indiv	1
$d3.2\_m3ff2rc$	BH	$\min 2$	1
$d3.2\_m3ff2rc$	НО	D1indiv	1
$d3.2$ _m3ff2rc	НО	indiv.mean	1
$d3.2$ _m3ff2rc	НО	$\min 1$	1
$d3.2$ _m3ff2rc	НО	complete	_
$d3.2$ _m3ff2rc	HO	D2indiv	1
$d3.2$ _m3ff2rc	НО	D3indiv	1
$\rm d3.2\_m3ff2rc$	НО	$\min 2$	1
$d3.2\_m3ff2rc$	None	D1indiv	1
$d3.2\_m3ff2rc$	None	indiv.mean	1
$d3.2\_m3ff2rc$	None	$\min 1$	_
$d3.2\_m3ff2rc$	None	complete	_
$d3.2\_m3ff2rc$	None	D2indiv	1
$d3.2\_m3ff2rc$	None	D3indiv	1
$d3.2$ _m3ff2rc	None	$\min 2$	_

	MTP	power_type	cover
d3.2 m3rr2rc	BF	D1indiv	0.846
d3.2 $m3rr2rc$	$_{ m BF}$	indiv.mean	0.846
d3.2 m3rr2rc	$_{ m BF}$	$\min 1$	0.692
d3.2 m3rr2rc	$_{ m BF}$	complete	0.846
d3.2 m3rr2rc	$_{ m BF}$	D2indiv	0.846
$d3.2$ _m3rr2rc	$\operatorname{BF}$	D3indiv	0.846
$d3.2\_m3rr2rc$	$_{\mathrm{BF}}$	$\min 2$	0.846
$d3.2$ _m3rr2rc	BH	D1indiv	0.846
$d3.2\_m3rr2rc$	BH	indiv.mean	0.846
$d3.2\_m3rr2rc$	BH	$\min 1$	0.769
$d3.2\_m3rr2rc$	BH	complete	0.846
$d3.2\_m3rr2rc$	BH	D2indiv	0.846
$d3.2$ _m3rr2rc	BH	D3indiv	0.846
$d3.2\_m3rr2rc$	BH	$\min 2$	0.846
$d3.2$ _m3rr2rc	НО	D1indiv	0.846
$d3.2\_m3rr2rc$	НО	indiv.mean	0.846
$d3.2\_m3rr2rc$	НО	$\min 1$	0.615
$d3.2\_m3rr2rc$	НО	complete	0.846
$d3.2\_m3rr2rc$	НО	D2indiv	0.846
$d3.2\_m3rr2rc$	НО	D3indiv	0.846
$d3.2\_m3rr2rc$	НО	$\min 2$	0.846
$d3.2\_m3rr2rc$	None	D1indiv	0.846
$d3.2\_m3rr2rc$	None	indiv.mean	0.846
$d3.2\_m3rr2rc$	None	$\min 1$	_
$d3.2\_m3rr2rc$	None	complete	_
$d3.2$ _m3rr2rc	None	D2indiv	0.846
$d3.2$ _m3rr2rc	None	D3indiv	0.846
$d3.2$ _m3rr2rc	None	$\min 2$	_

d_m	MTP	power_type	cover
d3.3_m3rc2rc	BF	D1indiv	1
$d3.3\_m3rc2rc$	$\operatorname{BF}$	indiv.mean	1
$d3.3$ _m3rc2rc	$\operatorname{BF}$	$\min 1$	1
$d3.3$ _m3rc2rc	$\operatorname{BF}$	complete	_
$d3.3$ _m3rc2rc	$\operatorname{BF}$	D2indiv	1
$d3.3\_m3rc2rc$	$\operatorname{BF}$	D3indiv	1
$d3.3\_m3rc2rc$	$\operatorname{BF}$	$\min 2$	1
$d3.3$ _m3rc2rc	BH	D1indiv	1
$d3.3\_m3rc2rc$	BH	indiv.mean	1
$d3.3$ _m3rc2rc	BH	$\min 1$	1
$d3.3$ _m3rc2rc	BH	complete	_
$d3.3\_m3rc2rc$	BH	D2indiv	1
$d3.3\_m3rc2rc$	BH	D3indiv	1
$d3.3\_m3rc2rc$	BH	$\min 2$	1
$d3.3$ _m3rc2rc	НО	D1indiv	1
$d3.3$ _m3rc2rc	HO	indiv.mean	1
$d3.3\_m3rc2rc$	HO	$\min 1$	1
$d3.3\_m3rc2rc$	HO	complete	_
$d3.3$ _m3rc2rc	HO	D2indiv	1
$d3.3\_m3rc2rc$	HO	D3indiv	1
$d3.3\_m3rc2rc$	НО	$\min 2$	1
$d3.3$ _m3rc2rc	None	D1indiv	1
$d3.3$ _m3rc2rc	None	indiv.mean	1
$d3.3$ _m3rc2rc	None	$\min 1$	_
$d3.3$ _m3rc2rc	None	complete	_
d3.3  m 3 rc 2 rc	None	D2indiv	1
d3.3  m 3 rc 2 rc	None	D3indiv	1
$d3.3$ _m3rc2rc	None	$\min 2$	_

#### Coverage discrepancies

We summarize below the scenarios where the simulation intervals do not cover the PUMP value. For brevity, we only display results for Bonferroni adjustments, because

d_m	MTP	type	omega.2	omega.3	ICC.2	ICC.3	pump	pow	$\sin$	low	up
d2.1_m2fr	BF	D1indiv	0.0	_	0.2	_	0.382	_	0.315	0.253	0.377
$d2.1\_m2fr$	$_{\mathrm{BF}}$	D2indiv	0.0	_	0.2	_	0.382	_	0.311	0.249	0.373
$d2.1\_m2fr$	$_{\mathrm{BF}}$	D3indiv	0.0	_	0.2	_	0.387	_	0.309	0.247	0.371
$d2.1\_m2fr$	$_{\mathrm{BF}}$	indiv.mean	0.0	_	0.2	_	0.384	_	0.312	0.250	0.374
$d2.1\_m2fr$	$_{\mathrm{BF}}$	$\min 1$	0.0	_	0.2	_	0.633	_	0.547	0.485	0.609
$d2.1\_m2fr$	$\operatorname{BF}$	$\min 2$	0.0	_	0.2	_	0.364	_	0.281	0.219	0.343
$d2.1\_m2fr$	$\operatorname{BF}$	complete	0.0	_	0.2	_	0.340	_	0.276	0.214	0.338
$d2.1\_m2fr$	$_{ m BF}$	$\min 1$	0.1	_	0.0	_	0.515	_	0.438	0.376	0.500
$d2.1\_m2fr$	$\operatorname{BF}$	$\min 2$	0.1	_	0.0	_	0.258	_	0.196	0.134	0.258

d_m	MTP	type	omega.2	omega.3	ICC.2	ICC.3	pump	pow	$\sin$	low	up
$d3.2$ _m3rr2rc	BF	D1indiv	_	0.0	0.2	0.2	0.321	_	0.244	0.182	0.306
$d3.2$ _m3rr2rc	$_{ m BF}$	D2indiv	_	0.0	0.2	0.2	0.327	_	0.247	0.185	0.309
$d3.2\_m3rr2rc$	$_{ m BF}$	D3indiv	_	0.0	0.2	0.2	0.328	_	0.250	0.188	0.312
$d3.2$ _m3rr2rc	$_{ m BF}$	indiv.mean	_	0.0	0.2	0.2	0.325	_	0.247	0.185	0.309
$d3.2\_m3rr2rc$	BF	$\min 1$	_	0.0	0.2	0.2	0.556	_	0.469	0.407	0.531
$d3.2$ _m3rr2rc	BF	$\min 2$	_	0.0	0.2	0.2	0.302	_	0.208	0.146	0.270
$d3.2$ _m3rr2rc	$_{\mathrm{BF}}$	complete	_	0.0	0.2	0.2	0.328	_	0.235	0.173	0.297
$d3.2$ _m3rr2rc	$_{ m BF}$	$\min 1$	_	0.1	0.0	0.2	0.654	_	0.728	0.666	0.790
$d3.2$ _m3rr2rc	$_{\mathrm{BF}}$	D1indiv	_	0.1	0.2	0.0	0.322	_	0.233	0.171	0.295
$\rm d3.2\_m3rr2rc$	$\operatorname{BF}$	D2indiv	_	0.1	0.2	0.0	0.317	_	0.246	0.184	0.308
$d3.2$ _m3rr2rc	BF	D3indiv	_	0.1	0.2	0.0	0.319	_	0.240	0.178	0.302
$d3.2$ _m3rr2rc	$_{\mathrm{BF}}$	indiv.mean	_	0.1	0.2	0.0	0.319	_	0.239	0.177	0.301
$d3.2$ _m3rr2rc	$_{\mathrm{BF}}$	$\min 1$	_	0.1	0.2	0.0	0.558	_	0.448	0.386	0.510
$d3.2$ _m3rr2rc	$_{\mathrm{BF}}$	$\min 2$	_	0.1	0.2	0.0	0.289	_	0.206	0.144	0.268
$\rm d3.2\_m3rr2rc$	$_{\mathrm{BF}}$	complete	_	0.1	0.2	0.0	0.318	_	0.233	0.171	0.295
$\rm d3.2\_m3rr2rc$	BF	min1	_	0.1	0.2	0.2	0.450	_	0.540	0.478	0.602

# Summary of validation "bias" results

d_m	MTP	power_type	mean.b.sim	mean.b.pow
$d2.1$ _m2fc	BF	D1indiv	0.007	_
$d2.1\_m2fc$	$_{\mathrm{BF}}$	indiv.mean	0.004	_
$d2.1\_m2fc$	$\operatorname{BF}$	$\min 1$	0.005	_
$d2.1\_m2fc$	$_{\mathrm{BF}}$	complete	0.006	_
$d2.1\_m2fc$	$_{\mathrm{BF}}$	D2indiv	0.006	_
$d2.1\_m2fc$	$\operatorname{BF}$	D3indiv	0.005	_
$d2.1\_m2fc$	BF	$\min 2$	0.004	_
$d2.1\_m2fc$	ВН	D1indiv	0.004	_
$d2.1\_m2fc$	BH	indiv.mean	0.006	_
$d2.1\_m2fc$	BH	$\min 1$	0.006	_
$d2.1\_m2fc$	BH	complete	0.007	_
$d2.1\_m2fc$	BH	D2indiv	0.005	_
$d2.1\_m2fc$	BH	D3indiv	0.007	_
$d2.1\_m2fc$	BH	$\min 2$	0.005	_
$d2.1\_m2fc$	НО	D1indiv	0.005	_
$d2.1\_m2fc$	HO	indiv.mean	0.006	_
$d2.1\_m2fc$	HO	$\min 1$	0.005	_
$d2.1\_m2fc$	НО	complete	0.008	_
$d2.1\_m2fc$	HO	D2indiv	0.005	_
$d2.1\_m2fc$	НО	D3indiv	0.008	_
$d2.1\_m2fc$	НО	$\min 2$	0.006	_
$d2.1\_m2fc$	None	D1indiv	0.006	0.002
$d2.1\_m2fc$	None	indiv.mean	0.005	_
$d2.1\_m2fc$	None	D2indiv	0.006	_
$d2.1$ _m2fc	None	D3indiv	0.006	_

	MTP	power_type	mean.b.sim	mean.b.pow
d2.1 m2ff	BF	D1indiv	0.009	_
d2.1 $m2ff$	BF	indiv.mean	0.007	_
$d2.1$ _m2ff	$\operatorname{BF}$	$\min 1$	0.008	_
$d2.1\_m2ff$	$\operatorname{BF}$	complete	0.004	_
$d2.1\_m2ff$	$\operatorname{BF}$	D2indiv	0.009	_
$d2.1\_m2ff$	$\operatorname{BF}$	D3indiv	0.006	_
$d2.1\_m2ff$	$\operatorname{BF}$	$\min 2$	0.009	_
d2.1 m2ff	ВН	D1indiv	0.006	_
d2.1 $m2ff$	BH	indiv.mean	0.005	_
$d2.1$ _m2ff	BH	$\min 1$	0.007	_
$d2.1\_m2ff$	BH	complete	0.004	_
$d2.1\_m2ff$	BH	D2indiv	0.008	_
$d2.1\_m2ff$	BH	D3indiv	0.007	_
$d2.1\_m2ff$	BH	$\min 2$	0.005	_
$d2.1\_m2ff$	НО	D1indiv	0.006	_
$d2.1\_m2ff$	HO	indiv.mean	0.005	_
$d2.1\_m2ff$	HO	$\min 1$	0.010	_
$d2.1\_m2ff$	HO	complete	0.006	_
$d2.1\_m2ff$	НО	D2indiv	0.006	_
$d2.1\_m2ff$	НО	D3indiv	0.004	_
$d2.1\_m2ff$	НО	$\min 2$	0.005	_
$d2.1\_m2ff$	None	D1indiv	0.010	0.002
$d2.1\_m2ff$	None	indiv.mean	0.010	_
$d2.1\_m2ff$	None	D2indiv	0.010	_
$d2.1\_m2ff$	None	D3indiv	0.004	_

d_m	MTP	power_type	mean.b.sim	mean.b.pow
d2.1_m2fr	BF	D1indiv	0.020	_
$d2.1\_m2fr$	$\operatorname{BF}$	indiv.mean	0.019	_
$d2.1\_m2fr$	$_{\mathrm{BF}}$	$\min 1$	0.024	_
$d2.1\_m2fr$	$\operatorname{BF}$	complete	0.013	_
$d2.1\_m2fr$	$\operatorname{BF}$	D2indiv	0.022	_
$d2.1\_m2fr$	$\operatorname{BF}$	D3indiv	0.017	_
$d2.1\_m2fr$	BF	$\min 2$	0.015	_
$d2.1\_m2fr$	ВН	D1indiv	0.011	_
$d2.1\_m2fr$	BH	indiv.mean	0.011	_
$d2.1\_m2fr$	BH	$\min 1$	0.016	_
$d2.1\_m2fr$	BH	complete	0.020	_
$d2.1\_m2fr$	BH	D2indiv	0.019	_
$d2.1\_m2fr$	BH	D3indiv	0.012	_
$d2.1\_m2fr$	BH	$\min 2$	0.010	_
$d2.1\_m2fr$	НО	D1indiv	0.014	_
$d2.1\_m2fr$	HO	indiv.mean	0.013	_
$d2.1\_m2fr$	НО	$\min 1$	0.022	_
$d2.1\_m2fr$	НО	complete	0.019	_
$d2.1\_m2fr$	HO	D2indiv	0.022	_
$d2.1\_m2fr$	НО	D3indiv	0.012	_
$d2.1\_m2fr$	НО	$\min 2$	0.014	_
$d2.1\_m2fr$	None	D1indiv	0.013	0.013
$d2.1\_m2fr$	None	indiv.mean	0.011	_
$d2.1\_m2fr$	None	D2indiv	0.021	_
$d2.1\_m2fr$	None	D3indiv	0.010	_

	MTP	power_type	mean.b.sim	mean.b.pow
d2.2 m2rc	BF	D1indiv	0.009	_
d2.2 $m2rc$	BF	indiv.mean	0.007	_
$d2.2$ _m2rc	$\operatorname{BF}$	$\min 1$	0.011	_
$d2.2\_m2rc$	$\operatorname{BF}$	complete	0.006	_
$d2.2\_m2rc$	$\operatorname{BF}$	D2indiv	0.006	_
$\rm d2.2\_m2rc$	$_{ m BF}$	D3indiv	0.009	_
$d2.2\_m2rc$	BF	$\min 2$	0.005	_
d2.2 m2rc	ВН	D1indiv	0.007	_
$d2.2$ _m2rc	BH	indiv.mean	0.007	_
$d2.2$ _m2rc	BH	$\min 1$	0.009	_
$d2.2\_m2rc$	BH	complete	0.008	_
$d2.2\_m2rc$	BH	D2indiv	0.007	_
$d2.2\_m2rc$	BH	D3indiv	0.007	_
$d2.2\_m2rc$	BH	$\min 2$	0.006	_
$d2.2\_m2rc$	НО	D1indiv	0.008	_
$d2.2\_m2rc$	HO	indiv.mean	0.007	_
$d2.2\_m2rc$	НО	$\min 1$	0.010	_
$d2.2\_m2rc$	НО	complete	0.007	_
$d2.2\_m2rc$	НО	D2indiv	0.007	_
$d2.2\_m2rc$	НО	D3indiv	0.008	_
$d2.2\_m2rc$	НО	$\min 2$	0.006	_
$d2.2\_m2rc$	None	D1indiv	0.009	0.006
$d2.2\_m2rc$	None	indiv.mean	0.006	_
$d2.2\_m2rc$	None	D2indiv	0.006	_
$d2.2\_m2rc$	None	D3indiv	0.008	_

	MTP	power_type	mean.b.sim	mean.b.pow
d3.1 m3rr2rr	BF	D1indiv	0.008	_
$d3.1_m3rr2rr$	$\operatorname{BF}$	indiv.mean	0.008	_
$d3.1_m3rr2rr$	$\operatorname{BF}$	$\min 1$	0.013	_
$d3.1_m3rr2rr$	$_{ m BF}$	complete	0.008	_
$d3.1_m3rr2rr$	$\operatorname{BF}$	D2indiv	0.008	_
$d3.1\_m3rr2rr$	$\operatorname{BF}$	D3indiv	0.008	_
$d3.1\_m3rr2rr$	BF	$\min 2$	0.006	_
$d3.1_m3rr2rr$	ВН	D1indiv	0.007	_
$d3.1_m3rr2rr$	BH	indiv.mean	0.006	_
$d3.1\_m3rr2rr$	$_{ m BH}$	$\min 1$	0.011	_
$d3.1\_m3rr2rr$	$_{ m BH}$	complete	0.009	_
$d3.1\_m3rr2rr$	BH	D2indiv	0.008	_
$d3.1\_m3rr2rr$	BH	D3indiv	0.007	_
$\rm d3.1\_m3rr2rr$	BH	$\min 2$	0.005	_
$d3.1_m3rr2rr$	НО	D1indiv	0.007	_
$d3.1_m3rr2rr$	HO	indiv.mean	0.007	_
$d3.1\_m3rr2rr$	HO	$\min 1$	0.013	_
$d3.1\_m3rr2rr$	HO	complete	0.008	_
$d3.1\_m3rr2rr$	HO	D2indiv	0.007	_
$d3.1\_m3rr2rr$	HO	D3indiv	0.008	_
$d3.1\_m3rr2rr$	НО	$\min 2$	0.006	_
$d3.1_m3rr2rr$	None	D1indiv	0.006	0.006
$d3.1\_m3rr2rr$	None	indiv.mean	0.006	_
$d3.1\_m3rr2rr$	None	D2indiv	0.004	_
$d3.1\_m3rr2rr$	None	D3indiv	0.006	_

d_m	MTP	power_type	mean.b.sim	mean.b.pow
d3.2 m3ff2rc	BF	D1indiv	0.004	
$d3.2$ _m3ff2rc	$\operatorname{BF}$	indiv.mean	0.004	_
$d3.2$ _m3ff2rc	$\operatorname{BF}$	$\min 1$	0.006	_
$d3.2$ _m3ff2rc	$_{\mathrm{BF}}$	complete	0.005	_
$d3.2$ _m3ff2rc	$_{ m BF}$	D2indiv	0.006	_
$d3.2$ _m3ff2rc	$\operatorname{BF}$	D3indiv	0.004	_
$d3.2\_m3ff2rc$	BF	$\min 2$	0.005	_
d3.2 m3ff2rc	ВН	D1indiv	0.003	_
$d3.2$ _m3ff2rc	BH	indiv.mean	0.003	_
$d3.2$ _m3ff2rc	BH	$\min 1$	0.004	_
$d3.2$ _m3ff2rc	BH	complete	0.004	_
$d3.2$ _m3ff2rc	BH	D2indiv	0.006	_
$d3.2$ _m3ff2rc	BH	D3indiv	0.003	_
$\rm d3.2\_m3ff2rc$	BH	$\min 2$	0.004	_
$d3.2$ _m3ff2rc	НО	D1indiv	0.004	_
$d3.2$ _m3ff2rc	HO	indiv.mean	0.004	_
$d3.2$ _m3ff2rc	HO	$\min 1$	0.004	_
$d3.2$ _m3ff2rc	HO	complete	0.005	_
$d3.2$ _m3ff2rc	HO	D2indiv	0.005	_
$d3.2$ _m3ff2rc	НО	D3indiv	0.006	_
$\rm d3.2\_m3ff2rc$	НО	$\min 2$	0.005	_
$d3.2\_m3ff2rc$	None	D1indiv	0.005	0.008
$d3.2\_m3ff2rc$	None	indiv.mean	0.005	_
$d3.2\_m3ff2rc$	None	D2indiv	0.006	_
$\rm d3.2\_m3ff2rc$	None	D3indiv	0.005	_

d_m	MTP	power_type	mean.b.sim	mean.b.pow
d3.2_m3rr2rc	BF	D1indiv	0.022	_
$d3.2$ _m3rr2rc	$\operatorname{BF}$	indiv.mean	0.022	_
$d3.2$ _m3rr2rc	$\operatorname{BF}$	$\min 1$	0.039	_
$d3.2$ _m3rr2rc	$\operatorname{BF}$	complete	0.006	_
$d3.2$ _m3rr2rc	$\operatorname{BF}$	D2indiv	0.021	_
$d3.2\_m3rr2rc$	$\operatorname{BF}$	D3indiv	0.023	_
$d3.2\_m3rr2rc$	BF	$\min 2$	0.018	_
d3.2 m3rr2rc	ВН	D1indiv	0.018	_
$d3.2$ _m3rr2rc	BH	indiv.mean	0.017	_
$d3.2$ _m3rr2rc	BH	$\min 1$	0.036	_
$d3.2$ _m3rr2rc	BH	complete	0.007	_
$d3.2$ _m3rr2rc	BH	D2indiv	0.018	_
$d3.2$ _m3rr2rc	BH	D3indiv	0.017	_
$d3.2\_m3rr2rc$	BH	$\min 2$	0.013	_
$d3.2$ _m3rr2rc	НО	D1indiv	0.025	_
$d3.2$ _m3rr2rc	HO	indiv.mean	0.024	_
$d3.2$ _m3rr2rc	HO	$\min 1$	0.037	_
$d3.2$ _m3rr2rc	HO	complete	0.006	_
$d3.2$ _m3rr2rc	HO	D2indiv	0.024	_
$d3.2\_m3rr2rc$	НО	D3indiv	0.023	_
$d3.2\_m3rr2rc$	НО	$\min 2$	0.018	_
$d3.2$ _m3rr2rc	None	D1indiv	0.015	0.02
$d3.2\_m3rr2rc$	None	indiv.mean	0.012	_
$d3.2\_m3rr2rc$	None	D2indiv	0.013	_
$d3.2\_m3rr2rc$	None	D3indiv	0.011	_

d_m	MTP	power_type	mean.b.sim	mean.b.pow
d3.3 m3rc2rc	BF	D1indiv	0.011	
$d3.3\_m3rc2rc$	$\operatorname{BF}$	indiv.mean	0.011	_
$d3.3\_m3rc2rc$	$\operatorname{BF}$	$\min 1$	0.025	_
$d3.3$ _m3rc2rc	$_{ m BF}$	complete	0.014	_
$d3.3$ _m3rc2rc	$\operatorname{BF}$	D2indiv	0.011	_
$d3.3\_m3rc2rc$	$\operatorname{BF}$	D3indiv	0.012	_
$d3.3\_m3rc2rc$	$\operatorname{BF}$	$\min 2$	0.007	_
d3.3 m3rc2rc	ВН	D1indiv	0.006	_
$d3.3$ _m3rc2rc	BH	indiv.mean	0.005	_
$d3.3\_m3rc2rc$	BH	$\min 1$	0.019	_
$d3.3$ _m3rc2rc	BH	complete	0.013	_
$d3.3\_m3rc2rc$	BH	D2indiv	0.007	_
$d3.3\_m3rc2rc$	BH	D3indiv	0.005	_
$d3.3\_m3rc2rc$	BH	$\min 2$	0.006	_
$d3.3$ _m3rc2rc	НО	D1indiv	0.009	_
$d3.3$ _m3rc2rc	HO	indiv.mean	0.009	_
$d3.3\_m3rc2rc$	HO	$\min 1$	0.025	_
$d3.3\_m3rc2rc$	HO	complete	0.013	_
$d3.3\_m3rc2rc$	HO	D2indiv	0.010	_
$d3.3\_m3rc2rc$	НО	D3indiv	0.008	_
$d3.3\_m3rc2rc$	НО	$\min 2$	0.005	_
$d3.3$ _m3rc2rc	None	D1indiv	0.007	0.011
$d3.3\_m3rc2rc$	None	indiv.mean	0.006	_
$d3.3\_m3rc2rc$	None	D2indiv	0.007	_
$d3.3\_m3rc2rc$	None	D3indiv	0.007	_

# Collapsed Summaries

d_m	mean.b.sim	max.b.sim	mean.b.pow
d2.1_m2fc	0.006	0.008	0.002
$d2.1\_m2ff$	0.007	0.010	0.002
$d2.1\_m2fr$	0.016	0.024	0.013
$d2.2\_m2rc$	0.007	0.011	0.006
$d3.1_m3rr2rr$	0.008	0.013	0.006
$d3.2\_m3ff2rc$	0.005	0.006	0.008
$d3.2$ _m3rr2rc	0.019	0.039	0.020
$d3.3\_m3rc2rc$	0.010	0.025	0.011

## WY Summary

d_m	MTP	mean.b.sim	max.b.sim
d2.1_m2fc	WY-SD	0.003	0.004
$d2.1\_m2fc$	WY- $SS$	0.004	0.005
$d2.1$ _m2ff	WY-SD	0.031	0.046
$d2.1_m2ff$	WY- $SS$	0.022	0.033
$d2.1\_m2fr$	WY-SD	0.020	0.035
$d2.1\_m2fr$	WY-SS	0.025	0.051
$d2.2\_m2rc$	WY-SD	0.006	0.021
$d2.2\_m2rc$	WY-SS	0.011	0.023
$d3.1_m3rr2rr$	WY-SD	0.025	0.035
$d3.1\_m3rr2rr$	WY-SS	0.039	0.058
$d3.2$ _m3ff2rc	WY- $SS$	0.038	0.057
$d3.2$ _m3rr2rc	WY- $SS$	0.144	0.176
$d3.3\_m3rc2rc$	WY-SS	0.017	0.032

## MDES summary

MTP	Adjusted MDES	D1indiv Power	Target MDES	$d_m$	S	Μ	MDES	$\operatorname{numZero}$	J	K	n
BF	0.125	0.475	0.125	$d2.1$ _m2fc	5000	3	0.125	0	20	1	
BH	0.124	0.557	0.125	$d2.1\_m2fc$	5000	3	0.125	0	20	1	
НО	0.126	0.552	0.125	$d2.1\_m2fc$	5000	3	0.125	0	20	1	
$_{ m BF}$	0.125	0.473	0.125	$d2.1\_m2ff$	5000	3	0.125	0	20	1	
ВН	0.125	0.567	0.125	$d2.1\_m2ff$	5000	3	0.125	0	20	1	
НО	0.126	0.555	0.125	$d2.1$ _m2ff	5000	3	0.125	0	20	1	
$_{ m BF}$	0.125	0.266	0.125	$d2.1\_m2fr$	5000	3	0.125	0	20	1	
BH	0.125	0.351	0.125	$d2.1\_m2fr$	5000	3	0.125	0	20	1	
НО	0.124	0.318	0.125	$d2.1\_m2fr$	5000	3	0.125	0	20	1	
$\operatorname{BF}$	0.125	0.164	0.125	$d2.2\_m2rc$	5000	3	0.125	0	60	1	
ВН	0.125	0.209	0.125	$d2.2$ _m2rc	5000	3	0.125	0	60	1	
HO	0.121	0.183	0.125	$d2.2\_m2rc$	5000	3	0.125	0	60	1	
$\operatorname{BF}$	0.125	0.721	0.125	$d3.1$ _m3rr2rr	5000	3	0.125	0	30	15	
BH	0.127	0.842	0.125	$d3.1$ _m3rr2rr	5000	3	0.125	0	30	15	
НО	0.125	0.810	0.125	$d3.1\_m3rr2rr$	5000	3	0.125	0	30	15	
BF	0.124	0.522	0.125	$d3.2$ _m3ff2rc	5000	3	0.125	0	30	10	
BH	0.125	0.624	0.125	$d3.2$ _m3ff2rc	5000	3	0.125	0	30	10	
НО	0.126	0.610	0.125	$d3.2$ _m3ff2rc	5000	3	0.125	0	30	10	
$\operatorname{BF}$	0.125	0.155	0.125	$d3.2$ _m3rr2rc	5000	3	0.125	0	30	10	
BH	0.125	0.222	0.125	$d3.2\_m3rr2rc$	5000	3	0.125	0	30	10	
НО	0.127	0.199	0.125	$d3.2$ _m3rr2rc	5000	3	0.125	0	30	10	
$\operatorname{BF}$	0.249	0.211	0.250	$d3.3$ _m3rc2rc	5000	3	0.250	0	40	20	
BH	0.251	0.284	0.250	$d3.3$ _m3rc2rc	5000	3	0.250	0	40	20	
НО	0.247	0.250	0.250	$d3.3$ _m3rc2rc	5000	3	0.250	0	40	20	

d_m	mean.b.mdes
d2.1_m2fc	0.007
$d2.1\_m2ff$ $d2.1 m2fr$	$0.004 \\ 0.004$
d2.2_m2rc	0.012
d3.1_m3rr2rr d3.2 m3ff2rc	0.005 $0.004$
d3.2_m3rr2rc	0.004
$d3.3$ _m3rc2rc	0.006