

# Validate Power: d2.1

February 25, 2022

d\_m: Blocked RCT, with 2 levels, and randomization done at level 1 (individual level).

Models: Constant treatment effects, fixed treatment effects, and random treatment effects.

Note: we expect a discrepancy when ICC is not zero between powerup and pump.

d_m	MTP	power_type	cover	mean.bias.sim	mean.bias.pow
d1.1_m1c	BF	D1indiv	0.7777778	1.1747633	NA
d1.1_m1c	BF	indiv.mean	0.7777778	1.1659628	NA
d1.1_m1c	BF	min1	0.2222222	1.0641789	NA
d1.1_m1c	BF	complete	NA	NA	NA
d1.1_m1c	BF	D2indiv	0.7500000	1.2226100	NA
d1.1_m1c	BF	D3indiv	0.8750000	1.1484185	NA
d1.1_m1c	BF	min2	1.0000000	1.7161890	NA
d1.1_m1c	BH	D1indiv	0.7777778	1.0885702	NA
d1.1_m1c	BH	indiv.mean	0.7777778	1.1147334	NA
d1.1_m1c	BH	min1	0.3333333	1.0476405	NA
d1.1_m1c	BH	complete	NA	NA	NA
d1.1_m1c	BH	D2indiv	0.7500000	1.1352714	NA
d1.1_m1c	BH	D3indiv	0.7500000	1.1187787	NA
d1.1_m1c	BH	min2	0.8750000	1.3865728	NA
d1.1_m1c	HO	D1indiv	0.7777778	1.1666769	NA
d1.1_m1c	HO	indiv.mean	0.7777778	1.1936408	NA
d1.1_m1c	HO	min1	0.1111111	1.1109313	NA
d1.1_m1c	HO	complete	NA	NA	NA
d1.1_m1c	HO	D2indiv	0.7500000	1.2646222	NA
d1.1_m1c	HO	D3indiv	0.7500000	1.1371766	NA
d1.1_m1c	HO	min2	0.8750000	1.5519363	NA
d1.1_m1c	None	D1indiv	0.7777778	0.7052119	NA
d1.1_m1c	None	indiv.mean	0.6666667	0.6967733	NA
d1.1_m1c	None	min1	NA	NA	NA
d1.1_m1c	None	complete	NA	NA	NA
d1.1_m1c	None	D2indiv	0.6250000	0.7001182	NA
d1.1_m1c	None	D3indiv	0.6250000	0.7093787	NA
d1.1_m1c	None	min2	NA	NA	NA

d_m	MTP	power_type	cover	mean.bias.sim	mean.bias.pow
d2.1_m2fc	BF	D1indiv	1	0.0144920	NA
d2.1_m2fc	BF	indiv.mean	1	0.0091038	NA
d2.1_m2fc	BF	min1	1	0.0078584	NA
d2.1_m2fc	BF	complete	NA	NA	NA
d2.1_m2fc	BF	D2indiv	1	0.0126073	NA
d2.1_m2fc	BF	D3indiv	1	0.0102527	NA
d2.1_m2fc	BF	min2	1	0.0095264	NA
d2.1_m2fc	BH	D1indiv	1	0.0072728	NA
d2.1_m2fc	BH	indiv.mean	1	0.0103283	NA
d2.1_m2fc	BH	min1	1	0.0091465	NA
d2.1_m2fc	BH	complete	NA	NA	NA
d2.1_m2fc	BH	D2indiv	1	0.0091869	NA
d2.1_m2fc	BH	D3indiv	1	0.0110124	NA
d2.1_m2fc	BH	min2	1	0.0088702	NA
d2.1_m2fc	HO	D1indiv	1	0.0103124	NA
d2.1_m2fc	HO	indiv.mean	1	0.0105760	NA
d2.1_m2fc	HO	min1	1	0.0078051	NA
d2.1_m2fc	HO	complete	NA	NA	NA
d2.1_m2fc	HO	D2indiv	1	0.0080045	NA
d2.1_m2fc	HO	D3indiv	1	0.0146531	NA
d2.1_m2fc	HO	min2	1	0.0121273	NA
d2.1_m2fc	None	D1indiv	1	0.0097373	0.1427929
d2.1_m2fc	None	indiv.mean	1	0.0079950	NA
d2.1_m2fc	None	min1	NA	NA	NA
d2.1_m2fc	None	complete	NA	NA	NA
d2.1_m2fc	None	D2indiv	1	0.0084875	NA
d2.1_m2fc	None	D3indiv	1	0.0088063	NA
d2.1_m2fc	None	min2	NA	NA	NA

d_m	MTP	power_type	cover	mean.bias.sim	mean.bias.pow
d2.1_m2ff	BF	D1indiv	1.000	0.0184370	NA
d2.1_m2ff	BF	indiv.mean	1.000	0.0146400	NA
d2.1_m2ff	BF	min1	1.000	0.0105614	NA
d2.1_m2ff	BF	complete	0.875	0.0326824	NA
d2.1_m2ff	BF	D2indiv	1.000	0.0186492	NA
d2.1_m2ff	BF	D3indiv	1.000	0.0109355	NA
d2.1_m2ff	BF	min2	1.000	0.0186013	NA
d2.1_m2ff	BH	D1indiv	1.000	0.0111009	NA
d2.1_m2ff	BH	indiv.mean	1.000	0.0095229	NA
d2.1_m2ff	BH	min1	1.000	0.0104114	NA
d2.1_m2ff	BH	complete	0.875	0.0291674	NA
d2.1_m2ff	BH	D2indiv	1.000	0.0128578	NA
d2.1_m2ff	BH	D3indiv	1.000	0.0117942	NA
d2.1_m2ff	BH	min2	1.000	0.0093027	NA
d2.1_m2ff	HO	D1indiv	1.000	0.0124176	NA
d2.1_m2ff	HO	indiv.mean	1.000	0.0089327	NA
d2.1_m2ff	HO	min1	1.000	0.0144421	NA
d2.1_m2ff	HO	complete	0.875	0.0346420	NA
d2.1_m2ff	HO	D2indiv	1.000	0.0110129	NA
d2.1_m2ff	HO	D3indiv	1.000	0.0065826	NA
d2.1_m2ff	HO	min2	1.000	0.0075045	NA
d2.1_m2ff	None	D1indiv	1.000	0.0158721	0.1532236
d2.1_m2ff	None	indiv.mean	1.000	0.0154850	NA
d2.1_m2ff	None	min1	NA	NA	NA
d2.1_m2ff	None	complete	NA	NA	NA
d2.1_m2ff	None	D2indiv	1.000	0.0153480	NA
d2.1_m2ff	None	D3indiv	0.875	0.0179229	NA
d2.1_m2ff	None	min2	NA	NA	NA

d_m	MTP	power_type	cover	mean.bias.sim	mean.bias.pow
d2.1_m2fr	BF	D1indiv	0.875	0.1126080	NA
d2.1_m2fr	BF	indiv.mean	0.875	0.1077641	NA
d2.1_m2fr	BF	min1	0.750	0.0965079	NA
d2.1_m2fr	BF	complete	0.875	0.0918263	NA
d2.1_m2fr	BF	D2indiv	0.875	0.1197927	NA
d2.1_m2fr	BF	D3indiv	0.875	0.0957705	NA
d2.1_m2fr	BF	min2	0.750	0.1312252	NA
d2.1_m2fr	BH	D1indiv	0.750	0.0851093	NA
d2.1_m2fr	BH	indiv.mean	0.750	0.0810729	NA
d2.1_m2fr	BH	min1	0.750	0.0761887	NA
d2.1_m2fr	BH	complete	1.000	0.0950726	NA
d2.1_m2fr	BH	D2indiv	0.875	0.0867859	NA
d2.1_m2fr	BH	D3indiv	0.750	0.0777550	NA
d2.1_m2fr	BH	min2	0.750	0.0861988	NA
d2.1_m2fr	HO	D1indiv	0.750	0.1065965	NA
d2.1_m2fr	HO	indiv.mean	0.750	0.1027644	NA
d2.1_m2fr	HO	min1	0.750	0.0945329	NA
d2.1_m2fr	HO	complete	1.000	0.0941406	NA
d2.1_m2fr	HO	D2indiv	0.875	0.1107241	NA
d2.1_m2fr	HO	D3indiv	0.750	0.0953781	NA
d2.1_m2fr	HO	min2	0.750	0.1211201	NA
d2.1_m2fr	None	D1indiv	0.750	0.0624734	0.0299297
d2.1_m2fr	None	indiv.mean	0.750	0.0582200	NA
d2.1_m2fr	None	min1	NA	NA	NA
d2.1_m2fr	None	complete	NA	NA	NA
d2.1_m2fr	None	D2indiv	0.875	0.0640113	NA
d2.1_m2fr	None	D3indiv	0.750	0.0533142	NA
d2.1_m2fr	None	min2	NA	NA	NA

d_m	MTP	power_type	cover	mean.bias.sim	mean.bias.pow
d2.2_m2rc	BF	D1indiv	1	0.0485287	NA
d2.2_m2rc	BF	indiv.mean	1	0.0343352	NA
d2.2_m2rc	BF	min1	1	0.0402870	NA
d2.2_m2rc	BF	complete	NA	NA	NA
d2.2_m2rc	BF	D2indiv	1	0.0250547	NA
d2.2_m2rc	BF	D3indiv	1	0.0460927	NA
d2.2_m2rc	BF	min2	1	0.0247423	NA
d2.2_m2rc	BH	D1indiv	1	0.0356809	NA
d2.2_m2rc	BH	indiv.mean	1	0.0291439	NA
d2.2_m2rc	BH	min1	1	0.0310714	NA
d2.2_m2rc	BH	complete	NA	NA	NA
d2.2_m2rc	BH	D2indiv	1	0.0264569	NA
d2.2_m2rc	BH	D3indiv	1	0.0289026	NA
d2.2_m2rc	BH	min2	1	0.0249422	NA
d2.2_m2rc	HO	D1indiv	1	0.0386335	NA
d2.2_m2rc	HO	indiv.mean	1	0.0361021	NA
d2.2_m2rc	HO	min1	1	0.0364442	NA
d2.2_m2rc	HO	complete	NA	NA	NA
d2.2_m2rc	HO	D2indiv	1	0.0357497	NA
d2.2_m2rc	HO	D3indiv	1	0.0446312	NA
d2.2_m2rc	HO	min2	1	0.0367265	NA
d2.2_m2rc	None	D1indiv	1	0.0352223	0.0242931
d2.2_m2rc	None	indiv.mean	1	0.0171203	NA
d2.2_m2rc	None	min1	NA	NA	NA
d2.2_m2rc	None	complete	NA	NA	NA
d2.2_m2rc	None	D2indiv	1	0.0164166	NA
d2.2_m2rc	None	D3indiv	1	0.0262602	NA
d2.2_m2rc	None	min2	NA	NA	NA

d_m	MTP	power_type	cover	mean.bias.sim	mean.bias.pow
d3.1_m3rr2rr	BF	D1indiv	0.8333333	0.0310535	NA
d3.1_m3rr2rr	BF	indiv.mean	0.8333333	0.0375830	NA
d3.1_m3rr2rr	BF	min1	0.8333333	0.0408069	NA
d3.1_m3rr2rr	BF	complete	NA	NA	NA
d3.1_m3rr2rr	BF	D2indiv	0.8235294	0.0425875	NA
d3.1_m3rr2rr	BF	D3indiv	0.8235294	0.0435770	NA
d3.1_m3rr2rr	BF	min2	0.8235294	0.0343975	NA
d3.1_m3rr2rr	BH	D1indiv	0.8333333	0.0263775	NA
d3.1_m3rr2rr	BH	indiv.mean	0.8333333	0.0292459	NA
d3.1_m3rr2rr	BH	min1	0.8333333	0.0378996	NA
d3.1_m3rr2rr	BH	complete	NA	NA	NA
d3.1_m3rr2rr	BH	D2indiv	0.8235294	0.0339985	NA
d3.1_m3rr2rr	BH	D3indiv	0.8235294	0.0335613	NA
d3.1_m3rr2rr	BH	min2	0.8235294	0.0259238	NA
d3.1_m3rr2rr	HO	D1indiv	0.8333333	0.0292224	NA
d3.1_m3rr2rr	HO	indiv.mean	0.8333333	0.0346720	NA
d3.1_m3rr2rr	HO	min1	0.8333333	0.0427462	NA
d3.1_m3rr2rr	HO	complete	NA	NA	NA
d3.1_m3rr2rr	HO	D2indiv	0.8235294	0.0362590	NA
d3.1_m3rr2rr	HO	D3indiv	0.8235294	0.0437580	NA
d3.1_m3rr2rr	HO	min2	0.8235294	0.0338089	NA
d3.1_m3rr2rr	None	D1indiv	0.8333333	0.0149091	0.0142668
d3.1_m3rr2rr	None	indiv.mean	0.8333333	0.0149802	NA
d3.1_m3rr2rr	None	min1	NA	NA	NA
d3.1_m3rr2rr	None	complete	NA	NA	NA
d3.1_m3rr2rr	None	D2indiv	0.8235294	0.0146305	NA
d3.1_m3rr2rr	None	D3indiv	0.8235294	0.0164074	NA
d3.1_m3rr2rr	None	min2	NA	NA	NA

d_m	MTP	power_type	cover	mean.bias.sim	mean.bias.pow
d3.2_m3ff2rc	BF	D1indiv	0.9230769	0.0081819	NA
d3.2_m3ff2rc	BF	indiv.mean	0.9230769	0.0095950	NA
d3.2_m3ff2rc	BF	min1	0.9230769	0.0086546	NA
d3.2_m3ff2rc	BF	complete	NA	NA	NA
d3.2_m3ff2rc	BF	D2indiv	0.9166667	0.0147366	NA
d3.2_m3ff2rc	BF	D3indiv	0.9166667	0.0079557	NA
d3.2_m3ff2rc	BF	min2	0.9166667	0.0118062	NA
d3.2_m3ff2rc	BH	D1indiv	0.9230769	0.0062667	NA
d3.2_m3ff2rc	BH	indiv.mean	0.9230769	0.0062723	NA
d3.2_m3ff2rc	BH	min1	0.9230769	0.0067091	NA
d3.2_m3ff2rc	BH	complete	NA	NA	NA
d3.2_m3ff2rc	BH	D2indiv	0.9166667	0.0117891	NA
d3.2_m3ff2rc	BH	D3indiv	0.9166667	0.0045888	NA
d3.2_m3ff2rc	BH	min2	0.9166667	0.0073652	NA
d3.2_m3ff2rc	HO	D1indiv	0.9230769	0.0063344	NA
d3.2_m3ff2rc	HO	indiv.mean	0.9230769	0.0077031	NA
d3.2_m3ff2rc	HO	min1	0.9230769	0.0060584	NA
d3.2_m3ff2rc	HO	complete	NA	NA	NA
d3.2_m3ff2rc	HO	D2indiv	0.9166667	0.0079077	NA
d3.2_m3ff2rc	HO	D3indiv	0.9166667	0.0120160	NA
d3.2_m3ff2rc	HO	min2	0.9166667	0.0099758	NA
d3.2_m3ff2rc	None	D1indiv	0.9230769	0.0084233	0.01143
d3.2_m3ff2rc	None	indiv.mean	0.9230769	0.0081534	NA
d3.2_m3ff2rc	None	min1	NA	NA	NA
d3.2_m3ff2rc	None	complete	NA	NA	NA
d3.2_m3ff2rc	None	D2indiv	0.9166667	0.0093044	NA
d3.2_m3ff2rc	None	D3indiv	0.9166667	0.0087649	NA
d3.2_m3ff2rc	None	min2	NA	NA	NA

d_m	MTP	power_type	cover	mean.bias.sim	mean.bias.pow
d3.2_m3rr2rc	BF	D1indiv	0.8461538	0.1809929	NA
d3.2_m3rr2rc	BF	indiv.mean	0.8461538	0.1798982	NA
d3.2_m3rr2rc	BF	min1	0.6923077	0.1778222	NA
d3.2_m3rr2rc	BF	complete	0.8461538	0.1106592	NA
d3.2_m3rr2rc	BF	D2indiv	0.8461538	0.1770924	NA
d3.2_m3rr2rc	BF	D3indiv	0.8461538	0.1838743	NA
d3.2_m3rr2rc	BF	min2	0.8461538	0.1960179	NA
d3.2_m3rr2rc	BH	D1indiv	0.8461538	0.1448876	NA
d3.2_m3rr2rc	BH	indiv.mean	0.8461538	0.1295725	NA
d3.2_m3rr2rc	BH	min1	0.7692308	0.1541549	NA
d3.2_m3rr2rc	BH	complete	0.8461538	0.1219004	NA
d3.2_m3rr2rc	BH	D2indiv	0.8461538	0.1251472	NA
d3.2_m3rr2rc	BH	D3indiv	0.8461538	0.1251525	NA
d3.2_m3rr2rc	BH	min2	0.8461538	0.1164288	NA
d3.2_m3rr2rc	HO	D1indiv	0.8461538	0.1825503	NA
d3.2_m3rr2rc	HO	indiv.mean	0.8461538	0.1727994	NA
d3.2_m3rr2rc	HO	min1	0.6153846	0.1929143	NA
d3.2_m3rr2rc	HO	complete	0.8461538	0.1136897	NA
d3.2_m3rr2rc	HO	D2indiv	0.8461538	0.1651619	NA
d3.2_m3rr2rc	HO	D3indiv	0.8461538	0.1707688	NA
d3.2_m3rr2rc	HO	min2	0.8461538	0.1563769	NA
d3.2_m3rr2rc	None	D1indiv	0.8461538	0.0782405	0.0658104
d3.2_m3rr2rc	None	indiv.mean	0.8461538	0.0671647	NA
d3.2_m3rr2rc	None	min1	NA	NA	NA
d3.2_m3rr2rc	None	complete	NA	NA	NA
d3.2_m3rr2rc	None	D2indiv	0.8461538	0.0669688	NA
d3.2_m3rr2rc	None	D3indiv	0.8461538	0.0647325	NA
d3.2_m3rr2rc	None	min2	NA	NA	NA



d_m	MTP	power_type	cover	mean.bias.sim	mean.bias.pow
d3.3_m3rc2rc	BF	D1indiv	0.9285714	0.0588095	NA
d3.3_m3rc2rc	BF	indiv.mean	0.9285714	0.0540565	NA
d3.3_m3rc2rc	BF	min1	0.9285714	0.0719689	NA
d3.3_m3rc2rc	BF	complete	NA	NA	NA
d3.3_m3rc2rc	BF	D2indiv	0.9230769	0.0531279	NA
d3.3_m3rc2rc	BF	D3indiv	0.9230769	0.0575343	NA
d3.3_m3rc2rc	BF	min2	0.9230769	0.0392128	NA
d3.3_m3rc2rc	BH	D1indiv	0.9285714	0.0230025	NA
d3.3_m3rc2rc	BH	indiv.mean	0.9285714	0.0156089	NA
d3.3_m3rc2rc	BH	min1	0.9285714	0.0521928	NA
d3.3_m3rc2rc	BH	complete	NA	NA	NA
d3.3_m3rc2rc	BH	D2indiv	0.9230769	0.0244586	NA
d3.3_m3rc2rc	BH	D3indiv	0.9230769	0.0163580	NA
d3.3_m3rc2rc	BH	min2	0.9230769	0.0333817	NA
d3.3_m3rc2rc	HO	D1indiv	0.9285714	0.0355492	NA
d3.3_m3rc2rc	HO	indiv.mean	0.9285714	0.0318240	NA
d3.3_m3rc2rc	HO	min1	0.9285714	0.0670782	NA
d3.3_m3rc2rc	HO	complete	NA	NA	NA
d3.3_m3rc2rc	HO	D2indiv	0.9230769	0.0356331	NA
d3.3_m3rc2rc	HO	D3indiv	0.9230769	0.0313820	NA
d3.3_m3rc2rc	HO	min2	0.9230769	0.0326127	NA
d3.3_m3rc2rc	None	D1indiv	0.9285714	0.0163105	0.0330597
d3.3_m3rc2rc	None	indiv.mean	0.9285714	0.0135739	NA
d3.3_m3rc2rc	None	min1	NA	NA	NA
d3.3_m3rc2rc	None	complete	NA	NA	NA
d3.3_m3rc2rc	None	D2indiv	0.9230769	0.0168220	NA
d3.3_m3rc2rc	None	D3indiv	0.9230769	0.0207882	NA
d3.3_m3rc2rc	None	min2	NA	NA	NA