Testing different models (fitting one time)

Using control only

 $\beta_0 = -6$: **prevalence** ≈ 0.01

| Model | β_0 | β_1 | eta_2 | β_3 | Abs. Bias | Bias(%) |
|----------------|----------------|---------------|---------------|--------------|-----------|---------|
| Default LOM | -4.646(0.355) | 0.202(0.604) | 0.843(0.847) | 2.041(1.098) | 0.599 | 22.7 |
| CLOM(X5X6) | -5.159(0.385) | 0.263(0.640) | 1.102(0.975) | 1.965(1.188) | 0.675 | 25.6 |
| CLOM(X7X8) | -5.109(0.391) | -0.032(0.499) | 0.286(0.612) | 1.340(0.751) | 1.300 | 49.2 |
| CLOM(X5678) | -5.798(0.448) | 0.068(0.566) | 0.623(0.793) | 1.305(0.902) | 1.335 | 50.6 |
| MSLOM(X7X8) | -4.288(0.408) | -0.089(0.495) | 0.228(0.616) | 1.127(0.665) | 1.513 | 57.3 |
| MSLOM(X1278) | -4.257(0.411) | -0.250(0.411) | -0.003(0.516) | 1.229(0.601) | 1.411 | 53.4 |
| MSLOM(X3478) | -4.030(0.497) | -0.299(0.432) | 0.020(0.604) | 1.187(0.579) | 1.453 | 55.0 |
| MSLOM(X5678) | -4.359(0.405) | -0.076(0.499) | 0.365(0.681) | 1.243(0.733) | 1.397 | 52.9 |
| MSLOM(X123478) | -4.093(0.427) | -0.369(0.356) | -0.114(0.476) | 1.342(0.596) | 1.298 | 49.2 |
| MSLOM(all) | -4.160(0.423) | -0.373(0.351) | -0.005(0.530) | 1.473(0.678) | 1.167 | 44.2 |
| DR | -5.997 (0.231) | 0.072(0.267) | 0.631(0.383) | 1.200(0.459) | 1.440 | 54.5 |

Marginal: $RERI_{OR}^{true} = 2.642$, $RERI_{RR}^{true} = 2.572$; Conditional: $RERI_{OR}^{true} = 2.64$

 $\beta_0 = -5.5$: **prevalence** ≈ 0.018

| Model | eta_0 | eta_1 | eta_2 | eta_3 | Abs. Bias | Bias(%) |
|----------------|---------------|---------------|---------------|--------------|-----------|---------|
| Default LOM | -4.079(0.270) | 0.029(0.408) | 0.402(0.518) | 2.948(0.938) | 0.308 | 11.7 |
| CLOM(X5X6) | -4.494(0.290) | 0.072(0.429) | 0.574(0.588) | 3.079(1.031) | 0.439 | 16.6 |
| CLOM(X7X8) | -4.628(0.305) | -0.158(0.346) | -0.010(0.384) | 2.195(0.696) | 0.445 | 16.9 |
| CLOM(X5678) | -5.215(0.347) | -0.094(0.385) | 0.193(0.477) | 2.441(0.850) | 0.199 | 7.5 |
| MSLOM(X7X8) | -3.832(0.303) | -0.141(0.362) | 0.022(0.404) | 2.028(0.652) | 0.612 | 23.2 |
| MSLOM(X1278) | -3.892(0.310) | -0.114(0.406) | -0.033(0.397) | 2.018(0.691) | 0.622 | 23.6 |
| MSLOM(X3478) | -3.619(0.364) | -0.296(0.333) | -0.116(0.404) | 2.177(0.717) | 0.463 | 17.5 |
| MSLOM(X5678) | -3.902(0.300) | -0.114(0.372) | 0.117(0.439) | 2.269(0.738) | 0.371 | 14.1 |
| MSLOM(X123478) | -3.747(0.326) | -0.197(0.398) | -0.114(0.381) | 2.258(0.785) | 0.382 | 14.5 |
| MSLOM(all) | -3.820(0.321) | -0.178(0.406) | -0.025(0.415) | 2.570(0.905) | 0.070 | 2.7 |
| DR | -5.319(0.177) | -0.094(0.184) | 0.164(0.228) | 2.514(0.431) | 0.126 | 4.8 |

Marginal: $RERI_{OR}^{true} = 2.568$, $RERI_{RR}^{true} = 2.462$; Conditional: $RERI_{OR}^{true} = 2.64$

 $\beta_0 = -5$: prevalence ≈ 0.03

| Model | β_0 | β_1 | β_2 | β_3 | Abs. Bias | Bias(%) |
|----------------|---------------|---------------|--------------|--------------|-----------|---------|
| Default LOM | -3.767(0.232) | -0.054(0.330) | 0.762(0.536) | 2.631(0.787) | 0.009 | 0.3 |
| CLOM(X5X6) | -4.091(0.246) | -0.023(0.344) | 0.957(0.602) | 2.730(0.863) | 0.090 | 3.4 |
| CLOM(X7X8) | -4.170(0.256) | -0.226(0.280) | 0.304(0.415) | 1.964(0.593) | 0.676 | 25.6 |
| CLOM(X5678) | -4.599(0.282) | -0.180(0.304) | 0.527(0.501) | 2.103(0.697) | 0.537 | 20.3 |
| MSLOM(X7X8) | -3.565(0.259) | -0.204(0.293) | 0.396(0.454) | 2.032(0.624) | 0.608 | 23.0 |
| MSLOM(X1278) | -3.681(0.266) | -0.124(0.349) | 0.317(0.446) | 2.502(0.849) | 0.138 | 5.2 |
| MSLOM(X3478) | -3.371(0.303) | -0.339(0.269) | 0.275(0.473) | 1.935(0.611) | 0.705 | 26.7 |
| MSLOM(X5678) | -3.625(0.256) | -0.185(0.299) | 0.529(0.494) | 2.241(0.696) | 0.399 | 15.1 |
| MSLOM(X123478) | -3.535(0.280) | -0.218(0.336) | 0.237(0.438) | 2.438(0.831) | 0.202 | 7.7 |
| MSLOM(all) | -3.606(0.274) | -0.196(0.343) | 0.386(0.485) | 2.726(0.938) | 0.086 | 3.3 |
| DR | -4.693(0.144) | -0.176(0.149) | 0.561(0.251) | 2.419(0.381) | 0.221 | 8.4 |

Marginal: $RERI_{OR}^{true} = 2.444$, $RERI_{RR}^{true} = 2.287$; Conditional: $RERI_{OR}^{true} = 2.64$

 $\beta_0 = -4.5$: prevalence ≈ 0.05

| Model | β_0 | β_1 | eta_2 | β_3 | Abs. Bias | Bias(%) |
|----------------|---------------|---------------|--------------|--------------|-----------|---------|
| Default LOM | -3.486(0.203) | 0.008(0.303) | 1.009(0.523) | 2.371(0.689) | 0.269 | 10.2 |
| CLOM(X5X6) | -3.832(0.216) | 0.044(0.318) | 1.260(0.599) | 2.481(0.773) | 0.159 | 6.0 |
| CLOM(X7X8) | -3.904(0.226) | -0.172(0.259) | 0.529(0.421) | 1.829(0.547) | 0.811 | 30.7 |
| CLOM(X5678) | -4.387(0.252) | -0.139(0.279) | 0.802(0.515) | 1.993(0.658) | 0.647 | 24.5 |
| MSLOM(X7X8) | -3.178(0.226) | -0.249(0.238) | 0.427(0.398) | 1.825(0.507) | 0.815 | 30.9 |
| MSLOM(X1278) | -3.314(0.232) | -0.161(0.284) | 0.387(0.402) | 2.286(0.690) | 0.354 | 13.4 |
| MSLOM(X3478) | -3.088(0.253) | -0.337(0.227) | 0.389(0.430) | 1.891(0.539) | 0.749 | 28.4 |
| MSLOM(X5678) | -3.252(0.225) | -0.225(0.245) | 0.588(0.441) | 2.109(0.591) | 0.531 | 20.1 |
| MSLOM(X123478) | -3.263(0.238) | -0.213(0.284) | 0.379(0.413) | 2.355(0.717) | 0.285 | 10.8 |
| MSLOM(all) | -3.336(0.235) | -0.196(0.289) | 0.550(0.460) | 2.730(0.834) | 0.090 | 3.4 |
| DR | -4.396(0.125) | -0.266(0.115) | 0.593(0.219) | 2.267(0.319) | 0.373 | 14.1 |

Marginal: $RERI_{OR}^{true} = 2.319$, $RERI_{RR}^{true} = 2.091$; Conditional: $RERI_{OR}^{true} = 2.64$

 $\beta_0 = -4$: prevalence ≈ 0.08

| Model | β_0 | β_1 | eta_2 | β_3 | Abs. Bias | Bias(%) |
|----------------|---------------|---------------|--------------|--------------|-----------|---------|
| Default LOM | -2.897(0.155) | -0.105(0.211) | 0.757(0.360) | 1.870(0.466) | 0.770 | 29.2 |
| CLOM(X5X6) | -3.197(0.166) | -0.081(0.221) | 0.970(0.413) | 1.988(0.532) | 0.652 | 24.7 |
| CLOM(X7X8) | -3.332(0.178) | -0.292(0.179) | 0.331(0.296) | 1.524(0.383) | 1.116 | 42.3 |
| CLOM(X5678) | -3.762(0.199) | -0.277(0.190) | 0.537(0.358) | 1.654(0.459) | 0.986 | 37.3 |
| MSLOM(X7X8) | -2.658(0.178) | -0.295(0.178) | 0.351(0.302) | 1.400(0.353) | 1.240 | 47.0 |
| MSLOM(X1278) | -2.738(0.180) | -0.286(0.190) | 0.303(0.305) | 1.729(0.447) | 0.911 | 34.5 |
| MSLOM(X3478) | -2.618(0.193) | -0.350(0.173) | 0.354(0.327) | 1.498(0.380) | 1.142 | 43.3 |
| MSLOM(X5678) | -2.728(0.177) | -0.278(0.181) | 0.519(0.338) | 1.573(0.404) | 1.067 | 40.4 |
| MSLOM(X123478) | -2.718(0.189) | -0.317(0.193) | 0.311(0.319) | 1.819(0.470) | 0.821 | 31.1 |
| MSLOM(all) | -2.772(0.193) | -0.315(0.196) | 0.464(0.362) | 2.021(0.531) | 0.619 | 23.4 |
| DR | -3.795(0.101) | -0.350(0.085) | 0.455(0.166) | 1.709(0.219) | 0.931 | 35.3 |

Marginal: $RERI_{OR}^{true} = 2.157$, $RERI_{RR}^{true} = 1.844$; Conditional: $RERI_{OR}^{true} = 2.64$

 $\beta_0 = -3$: prevalence ≈ 0.18

| Model | eta_0 | eta_1 | eta_2 | eta_3 | Abs. Bias | Bias(%) |
|----------------|---------------|--------------|--------------|--------------|-----------|---------|
| Default LOM | -2.212(0.116) | 0.363(0.220) | 0.714(0.267) | 1.638(0.385) | 1.002 | 38.0 |
| CLOM(X5X6) | -2.468(0.124) | 0.429(0.238) | 0.936(0.312) | 1.878(0.460) | 0.762 | 28.9 |
| CLOM(X7X8) | -2.625(0.136) | 0.238(0.221) | 0.438(0.250) | 1.659(0.400) | 0.981 | 37.2 |
| CLOM(X5678) | -3.039(0.152) | 0.320(0.250) | 0.668(0.308) | 2.057(0.523) | 0.583 | 22.1 |
| MSLOM(X7X8) | -2.018(0.136) | 0.180(0.208) | 0.349(0.232) | 1.510(0.346) | 1.130 | 42.8 |
| MSLOM(X1278) | -2.092(0.136) | 0.304(0.254) | 0.301(0.232) | 1.732(0.436) | 0.908 | 34.4 |
| MSLOM(X3478) | -2.018(0.140) | 0.146(0.209) | 0.303(0.233) | 1.661(0.371) | 0.979 | 37.1 |
| MSLOM(X5678) | -2.111(0.136) | 0.248(0.221) | 0.564(0.269) | 1.876(0.422) | 0.764 | 28.9 |
| MSLOM(X123478) | -2.105(0.138) | 0.252(0.241) | 0.262(0.229) | 1.935(0.461) | 0.705 | 26.7 |
| MSLOM(all) | -2.189(0.141) | 0.302(0.253) | 0.453(0.268) | 2.380(0.554) | 0.260 | 9.8 |
| DR | -2.910(0.077) | 0.125(0.106) | 0.455(0.134) | 2.130(0.225) | 0.510 | 19.3 |

Marginal: $RERI_{OR}^{true} = 1.951$, $RERI_{RR}^{true} = 1.384$; Conditional: $RERI_{OR}^{true} = 2.64$

 $\beta_0 = -2$: prevalence ≈ 0.4

| Model | eta_0 | eta_1 | eta_2 | eta_3 | Abs. Bias | $\mathrm{Bias}(\%)$ |
|----------------|---------------|--------------|--------------|--------------|-----------|---------------------|
| Default LOM | -1.577(0.092) | 0.525(0.194) | 0.695(0.214) | 1.747(0.357) | 0.893 | 33.8 |
| CLOM(X5X6) | -1.755(0.097) | 0.614(0.213) | 0.908(0.251) | 2.096(0.437) | 0.544 | 20.6 |
| CLOM(X7X8) | -1.844(0.106) | 0.524(0.217) | 0.554(0.221) | 2.059(0.434) | 0.581 | 22.0 |
| CLOM(X5678) | -2.126(0.116) | 0.669(0.252) | 0.801(0.272) | 2.742(0.594) | 0.102 | 3.9 |
| MSLOM(X7X8) | -1.573(0.103) | 0.585(0.215) | 0.638(0.221) | 1.834(0.403) | 0.806 | 30.5 |
| MSLOM(X1278) | -1.601(0.104) | 0.664(0.251) | 0.685(0.246) | 1.583(0.458) | 1.057 | 40.0 |
| MSLOM(X3478) | -1.576(0.104) | 0.568(0.218) | 0.666(0.233) | 1.804(0.420) | 0.836 | 31.7 |
| MSLOM(X5678) | -1.671(0.103) | 0.730(0.236) | 0.899(0.258) | 2.630(0.528) | 0.010 | 0.4 |
| MSLOM(X123478) | -1.610(0.105) | 0.663(0.255) | 0.737(0.262) | 1.581(0.482) | 1.059 | 40.1 |
| MSLOM(all) | -1.696(0.108) | 0.776(0.276) | 1.000(0.304) | 2.183(0.596) | 0.457 | 17.3 |
| DR | -2.110(0.064) | 0.643(0.130) | 0.797(0.142) | 2.700(0.264) | 0.060 | 2.3 |

Marginal: $RERI_{OR}^{true}=1.760, RERI_{RR}^{true}=0.906;$ Conditional: $RERI_{OR}^{true}=2.64$

 $\beta_0 = -1$: prevalence ≈ 0.6

| Model | β_0 | β_1 | β_2 | β_3 | Abs. Bias | Bias(%) |
|----------------|---------------|--------------|--------------|--------------|-----------|---------|
| Default LOM | -0.749(0.074) | 0.357(0.145) | 0.427(0.153) | 2.007(0.332) | 0.633 | 24.0 |
| CLOM(X5X6) | -0.864(0.079) | 0.436(0.162) | 0.607(0.182) | 2.532(0.428) | 0.108 | 4.1 |
| CLOM(X7X8) | -0.802(0.085) | 0.332(0.161) | 0.283(0.157) | 2.309(0.401) | 0.331 | 12.5 |
| CLOM(X5678) | -0.973(0.092) | 0.458(0.190) | 0.480(0.195) | 3.312(0.596) | 0.672 | 25.5 |
| MSLOM(X7X8) | -0.792(0.080) | 0.480(0.165) | 0.484(0.166) | 2.039(0.388) | 0.601 | 22.8 |
| MSLOM(X1278) | -0.833(0.084) | 0.670(0.216) | 0.562(0.193) | 1.807(0.485) | 0.833 | 31.6 |
| MSLOM(X3478) | -0.747(0.082) | 0.421(0.164) | 0.460(0.173) | 1.898(0.385) | 0.742 | 28.1 |
| MSLOM(X5678) | -0.895(0.081) | 0.692(0.190) | 0.761(0.200) | 3.094(0.547) | 0.454 | 17.2 |
| MSLOM(X123478) | -0.791(0.086) | 0.599(0.213) | 0.541(0.199) | 1.636(0.459) | 1.004 | 38.0 |
| MSLOM(all) | -0.896(0.088) | 0.848(0.252) | 0.835(0.239) | 2.429(0.635) | 0.211 | 8.0 |
| DR | -1.001(0.053) | 0.508(0.106) | 0.557(0.110) | 3.032(0.247) | 0.392 | 14.8 |

Marginal: $RERI_{OR}^{true} = 1.681$, $RERI_{RR}^{true} = 0.521$; Conditional: $RERI_{OR}^{true} = 2.64$

Using both control and case

 $\beta_0 = -6$: **prevalence** ≈ 0.01

| Model | β_0 | β_1 | eta_2 | β_3 | Abs. Bias | Bias(%) |
|----------------|---------------|---------------|---------------|--------------|-----------|---------|
| Default LOM | -4.646(0.355) | 0.202(0.604) | 0.843(0.847) | 2.041(1.098) | 0.599 | 22.7 |
| CLOM(X5X6) | -5.159(0.385) | 0.263(0.640) | 1.102(0.975) | 1.965(1.188) | 0.675 | 25.6 |
| CLOM(X7X8) | -5.109(0.391) | -0.032(0.499) | 0.286(0.612) | 1.340(0.751) | 1.300 | 49.2 |
| CLOM(X5678) | -5.798(0.448) | 0.068(0.566) | 0.623(0.793) | 1.305(0.902) | 1.335 | 50.6 |
| MSLOM(X7X8) | -4.266(0.411) | -0.108(0.487) | 0.205(0.608) | 1.093(0.647) | 1.547 | 58.6 |
| MSLOM(X1278) | -4.233(0.416) | -0.267(0.404) | -0.029(0.506) | 1.202(0.581) | 1.438 | 54.5 |
| MSLOM(X3478) | -4.015(0.496) | -0.309(0.425) | 0.004(0.593) | 1.150(0.561) | 1.490 | 56.4 |
| MSLOM(X5678) | -4.329(0.408) | -0.098(0.489) | 0.325(0.664) | 1.189(0.704) | 1.451 | 55.0 |
| MSLOM(X123478) | -4.078(0.427) | -0.377(0.351) | -0.134(0.465) | 1.305(0.573) | 1.335 | 50.6 |
| MSLOM(all) | -4.139(0.423) | -0.380(0.347) | -0.039(0.511) | 1.408(0.638) | 1.232 | 46.7 |
| DR | -5.999(0.230) | 0.072(0.266) | 0.629(0.379) | 1.204(0.461) | 1.436 | 54.4 |

Marginal: $RERI_{OR}^{true} = 2.642$, $RERI_{RR}^{true} = 2.572$; Conditional: $RERI_{OR}^{true} = 2.64$

 $\beta_0 = -5.5$: prevalence ≈ 0.018

| Model | β_0 | β_1 | β_2 | β_3 | Abs. Bias | Bias(%) |
|----------------|---------------|---------------|---------------|--------------|-----------|---------|
| Default LOM | -4.079(0.270) | 0.029(0.408) | 0.402(0.518) | 2.948(0.938) | 0.308 | 11.7 |
| CLOM(X5X6) | -4.494(0.290) | 0.072(0.429) | 0.574(0.588) | 3.079(1.031) | 0.439 | 16.6 |
| CLOM(X7X8) | -4.628(0.305) | -0.158(0.346) | -0.010(0.384) | 2.195(0.696) | 0.445 | 16.9 |
| CLOM(X5678) | -5.215(0.347) | -0.094(0.385) | 0.193(0.477) | 2.441(0.850) | 0.199 | 7.5 |
| MSLOM(X7X8) | -3.797(0.306) | -0.164(0.354) | -0.006(0.395) | 1.918(0.615) | 0.722 | 27.3 |
| MSLOM(X1278) | -3.857(0.316) | -0.140(0.397) | -0.068(0.387) | 1.917(0.653) | 0.723 | 27.4 |
| MSLOM(X3478) | -3.598(0.364) | -0.307(0.327) | -0.130(0.396) | 2.022(0.652) | 0.618 | 23.4 |
| MSLOM(X5678) | -3.849(0.304) | -0.152(0.358) | 0.064(0.421) | 2.078(0.671) | 0.562 | 21.3 |
| MSLOM(X123478) | -3.724(0.328) | -0.212(0.389) | -0.137(0.371) | 2.099(0.720) | 0.541 | 20.5 |
| MSLOM(all) | -3.776(0.324) | -0.207(0.390) | -0.076(0.394) | 2.295(0.792) | 0.345 | 13.1 |
| DR | -5.324(0.176) | -0.092(0.182) | 0.168(0.226) | 2.512(0.435) | 0.128 | 4.8 |

Marginal: $RERI_{OR}^{true} = 2.568$, $RERI_{RR}^{true} = 2.462$; Conditional: $RERI_{OR}^{true} = 2.64$

 $\beta_0 = -5$: prevalence ≈ 0.03

| Model | eta_0 | eta_1 | eta_2 | eta_3 | Abs. Bias | $\mathrm{Bias}(\%)$ |
|----------------|---------------|---------------|--------------|--------------|-----------|---------------------|
| Default LOM | -3.767(0.232) | -0.054(0.330) | 0.762(0.536) | 2.631(0.787) | 0.009 | 0.3 |
| CLOM(X5X6) | -4.091(0.246) | -0.023(0.344) | 0.957(0.602) | 2.730(0.863) | 0.090 | 3.4 |
| CLOM(X7X8) | -4.170(0.256) | -0.226(0.280) | 0.304(0.415) | 1.964(0.593) | 0.676 | 25.6 |
| CLOM(X5678) | -4.599(0.282) | -0.180(0.304) | 0.527(0.501) | 2.103(0.697) | 0.537 | 20.3 |
| MSLOM(X7X8) | -3.530(0.262) | -0.215(0.291) | 0.344(0.440) | 1.882(0.580) | 0.758 | 28.7 |
| MSLOM(X1278) | -3.643(0.273) | -0.143(0.345) | 0.251(0.431) | 2.323(0.786) | 0.317 | 12.0 |
| MSLOM(X3478) | -3.344(0.305) | -0.344(0.268) | 0.225(0.454) | 1.782(0.554) | 0.858 | 32.5 |
| MSLOM(X5678) | -3.572(0.260) | -0.206(0.293) | 0.435(0.468) | 1.999(0.622) | 0.641 | 24.3 |
| MSLOM(X123478) | -3.506(0.283) | -0.231(0.331) | 0.175(0.418) | 2.237(0.751) | 0.403 | 15.3 |
| MSLOM(all) | -3.551(0.280) | -0.226(0.331) | 0.268(0.447) | 2.383(0.806) | 0.257 | 9.7 |
| DR | -4.703(0.143) | -0.167(0.147) | 0.584(0.251) | 2.401(0.388) | 0.239 | 9.1 |

Marginal: $RERI_{OR}^{true} = 2.444$, $RERI_{RR}^{true} = 2.287$; Conditional: $RERI_{OR}^{true} = 2.64$

 $\beta_0 = -4.5$: prevalence ≈ 0.05

| Model | β_0 | β_1 | β_2 | β_3 | Abs. Bias | Bias(%) |
|----------------|---------------|---------------|--------------|--------------|-----------|---------|
| Default LOM | -3.486(0.203) | 0.008(0.303) | 1.009(0.523) | 2.371(0.689) | 0.269 | 10.2 |
| CLOM(X5X6) | -3.832(0.216) | 0.044(0.318) | 1.260(0.599) | 2.481(0.773) | 0.159 | 6.0 |
| CLOM(X7X8) | -3.904(0.226) | -0.172(0.259) | 0.529(0.421) | 1.829(0.547) | 0.811 | 30.7 |
| CLOM(X5678) | -4.387(0.252) | -0.139(0.279) | 0.802(0.515) | 1.993(0.658) | 0.647 | 24.5 |
| MSLOM(X7X8) | -3.124(0.229) | -0.269(0.234) | 0.339(0.376) | 1.644(0.455) | 0.996 | 37.7 |
| MSLOM(X1278) | -3.263(0.237) | -0.183(0.280) | 0.291(0.380) | 2.066(0.619) | 0.574 | 21.7 |
| MSLOM(X3478) | -3.036(0.255) | -0.351(0.223) | 0.287(0.397) | 1.688(0.468) | 0.952 | 36.1 |
| MSLOM(X5678) | -3.168(0.227) | -0.260(0.236) | 0.429(0.400) | 1.771(0.494) | 0.869 | 32.9 |
| MSLOM(X123478) | -3.213(0.242) | -0.232(0.278) | 0.266(0.381) | 2.099(0.626) | 0.541 | 20.5 |
| MSLOM(all) | -3.253(0.239) | -0.233(0.277) | 0.356(0.406) | 2.255(0.674) | 0.385 | 14.6 |
| DR | -4.389(0.123) | -0.267(0.112) | 0.599(0.216) | 2.214(0.321) | 0.426 | 16.1 |

Marginal: $RERI_{OR}^{true}=2.319,\,RERI_{RR}^{true}=2.091;$ Conditional: $RERI_{OR}^{true}=2.64$

 $\beta_0 = -4$: prevalence ≈ 0.08

| Model | eta_0 | eta_1 | eta_2 | eta_3 | Abs. Bias | Bias(%) |
|----------------|---------------|---------------|--------------|--------------|-----------|---------|
| Default LOM | -2.897(0.155) | -0.105(0.211) | 0.757(0.360) | 1.870(0.466) | 0.770 | 29.2 |
| CLOM(X5X6) | -3.197(0.166) | -0.081(0.221) | 0.970(0.413) | 1.988(0.532) | 0.652 | 24.7 |
| CLOM(X7X8) | -3.332(0.178) | -0.292(0.179) | 0.331(0.296) | 1.524(0.383) | 1.116 | 42.3 |
| CLOM(X5678) | -3.762(0.199) | -0.277(0.190) | 0.537(0.358) | 1.654(0.459) | 0.986 | 37.3 |
| MSLOM(X7X8) | -2.592(0.180) | -0.319(0.173) | 0.243(0.280) | 1.246(0.314) | 1.394 | 52.8 |
| MSLOM(X1278) | -2.675(0.183) | -0.308(0.186) | 0.191(0.282) | 1.556(0.396) | 1.084 | 41.1 |
| MSLOM(X3478) | -2.551(0.195) | -0.370(0.169) | 0.220(0.295) | 1.327(0.326) | 1.313 | 49.7 |
| MSLOM(X5678) | -2.631(0.179) | -0.314(0.174) | 0.328(0.298) | 1.316(0.336) | 1.324 | 50.2 |
| MSLOM(X123478) | -2.655(0.190) | -0.337(0.188) | 0.175(0.287) | 1.626(0.406) | 1.014 | 38.4 |
| MSLOM(all) | -2.684(0.191) | -0.344(0.186) | 0.252(0.307) | 1.696(0.428) | 0.944 | 35.8 |
| DR | -3.781(0.099) | -0.351(0.081) | 0.459(0.163) | 1.673(0.223) | 0.967 | 36.6 |

Marginal: $RERI_{OR}^{true} = 2.157$, $RERI_{RR}^{true} = 1.844$; Conditional: $RERI_{OR}^{true} = 2.64$

 $\beta_0 = -3$: prevalence ≈ 0.18

| Model | eta_0 | eta_1 | eta_2 | β_3 | Abs. Bias | Bias(%) |
|----------------|---------------|--------------|--------------|--------------|-----------|---------|
| Default LOM | -2.212(0.116) | 0.363(0.220) | 0.714(0.267) | 1.638(0.385) | 1.002 | 38.0 |
| CLOM(X5X6) | -2.468(0.124) | 0.429(0.238) | 0.936(0.312) | 1.878(0.460) | 0.762 | 28.9 |
| CLOM(X7X8) | -2.625(0.136) | 0.238(0.221) | 0.438(0.250) | 1.659(0.400) | 0.981 | 37.2 |
| CLOM(X5678) | -3.039(0.152) | 0.320(0.250) | 0.668(0.308) | 2.057(0.523) | 0.583 | 22.1 |
| MSLOM(X7X8) | -1.917(0.136) | 0.061(0.187) | 0.233(0.211) | 1.169(0.282) | 1.471 | 55.7 |
| MSLOM(X1278) | -1.996(0.136) | 0.172(0.227) | 0.178(0.212) | 1.355(0.349) | 1.285 | 48.7 |
| MSLOM(X3478) | -1.916(0.141) | 0.023(0.188) | 0.192(0.214) | 1.305(0.297) | 1.335 | 50.6 |
| MSLOM(X5678) | -1.954(0.135) | 0.074(0.189) | 0.314(0.225) | 1.248(0.300) | 1.392 | 52.7 |
| MSLOM(X123478) | -2.008(0.139) | 0.115(0.214) | 0.138(0.209) | 1.531(0.362) | 1.109 | 42.0 |
| MSLOM(all) | -2.037(0.139) | 0.109(0.213) | 0.210(0.223) | 1.620(0.380) | 1.020 | 38.6 |
| DR | -2.903(0.074) | 0.129(0.102) | 0.457(0.129) | 2.046(0.233) | 0.594 | 22.5 |

Marginal: $RERI_{OR}^{true} = 1.951$, $RERI_{RR}^{true} = 1.384$; Conditional: $RERI_{OR}^{true} = 2.64$

 $\beta_0 = -2$: prevalence ≈ 0.4

| Model | eta_0 | eta_1 | eta_2 | eta_3 | Abs. Bias | Bias(%) |
|----------------|---------------|--------------|--------------|--------------|-----------|---------|
| Default LOM | -1.577(0.092) | 0.525(0.194) | 0.695(0.214) | 1.747(0.357) | 0.893 | 33.8 |
| CLOM(X5X6) | -1.755(0.097) | 0.614(0.213) | 0.908(0.251) | 2.096(0.437) | 0.544 | 20.6 |
| CLOM(X7X8) | -1.844(0.106) | 0.524(0.217) | 0.554(0.221) | 2.059(0.434) | 0.581 | 22.0 |
| CLOM(X5678) | -2.126(0.116) | 0.669(0.252) | 0.801(0.272) | 2.742(0.594) | 0.102 | 3.9 |
| MSLOM(X7X8) | -1.451(0.106) | 0.391(0.192) | 0.445(0.198) | 1.283(0.310) | 1.357 | 51.4 |
| MSLOM(X1278) | -1.480(0.108) | 0.453(0.219) | 0.481(0.227) | 1.110(0.356) | 1.530 | 58.0 |
| MSLOM(X3478) | -1.458(0.106) | 0.385(0.196) | 0.465(0.206) | 1.266(0.322) | 1.374 | 52.0 |
| MSLOM(X5678) | -1.479(0.106) | 0.401(0.193) | 0.518(0.208) | 1.393(0.327) | 1.247 | 47.2 |
| MSLOM(X123478) | -1.492(0.109) | 0.461(0.225) | 0.521(0.239) | 1.092(0.375) | 1.548 | 58.6 |
| MSLOM(all) | -1.515(0.109) | 0.450(0.223) | 0.602(0.253) | 1.165(0.390) | 1.475 | 55.9 |
| DR | -2.115(0.059) | 0.654(0.123) | 0.817(0.135) | 2.698(0.289) | 0.058 | 2.2 |

Marginal: $RERI_{OR}^{true}=1.760, RERI_{RR}^{true}=0.906;$ Conditional: $RERI_{OR}^{true}=2.64$

 $\beta_0 = -1$: prevalence ≈ 0.6

| Model | β_0 | β_1 | β_2 | β_3 | Abs. Bias | Bias(%) |
|----------------|---------------|--------------|--------------|--------------|-----------|---------|
| Default LOM | -0.749(0.074) | 0.357(0.145) | 0.427(0.153) | 2.007(0.332) | 0.633 | 24.0 |
| CLOM(X5X6) | -0.864(0.079) | 0.436(0.162) | 0.607(0.182) | 2.532(0.428) | 0.108 | 4.1 |
| CLOM(X7X8) | -0.802(0.085) | 0.332(0.161) | 0.283(0.157) | 2.309(0.401) | 0.331 | 12.5 |
| CLOM(X5678) | -0.973(0.092) | 0.458(0.190) | 0.480(0.195) | 3.312(0.596) | 0.672 | 25.5 |
| MSLOM(X7X8) | -0.658(0.084) | 0.292(0.148) | 0.260(0.144) | 1.353(0.283) | 1.287 | 48.8 |
| MSLOM(X1278) | -0.712(0.089) | 0.441(0.183) | 0.345(0.178) | 1.259(0.351) | 1.381 | 52.3 |
| MSLOM(X3478) | -0.619(0.087) | 0.251(0.149) | 0.233(0.147) | 1.271(0.280) | 1.369 | 51.9 |
| MSLOM(X5678) | -0.681(0.084) | 0.298(0.148) | 0.322(0.151) | 1.457(0.298) | 1.183 | 44.8 |
| MSLOM(X123478) | -0.684(0.092) | 0.396(0.184) | 0.330(0.181) | 1.117(0.343) | 1.523 | 57.7 |
| MSLOM(all) | -0.705(0.092) | 0.380(0.182) | 0.404(0.191) | 1.201(0.359) | 1.439 | 54.5 |
| DR | -1.005(0.047) | 0.528(0.098) | 0.551(0.100) | 2.979(0.277) | 0.339 | 12.8 |

Marginal: $RERI_{OR}^{true} = 1.681$, $RERI_{RR}^{true} = 0.521$; Conditional: $RERI_{OR}^{true} = 2.64$