Appendix A: WinBUGS code used in Bayesian Mixed Treatment Comparisons Meta-Analysis

The WinBUGS code used to conduct Bayesian MTC meta-analyses is given below. WinBUGS Version 1.4.3 was used for all analyses. The code was adapted from code developed for the NICE Evidence Synthesis Technical Series Documents 2 and 3.[1, 2]

KQ1: Random Effects Model for Dichotomous Data

```
# Binomial likelihood, logit link
# Random effects model for multi-arm trials

model{                          # *** PROGRAM STARTS

for(i in 1:ns){                 # LOOP THROUGH STUDIES
   w[i,1] <- 0   # adjustment for multi-arm trials is zero for control arm
   delta[i,1] <- 0          # treatment effect is zero for control arm
   mu[i] ~ dnorm(0,.0001)         # vague priors for all trial baselines
   for (k in 1:na[i]) {           # LOOP THROUGH ARMS
      r[i,k] ~ dbin(p[i,k],n[i,k]) # binomial likelihood
      logit(p[i,k]) <- mu[i] + delta[i,k]  # model for linear predictor
      rhat[i,k] <- p[i,k] * n[i,k] # expected value of the numerators

#Deviance contribution
      dev[i,k] <- 2 * (r[i,k] * (log(r[i,k])-log(rhat[i,k]))
         +  (n[i,k]-r[i,k]) * (log(n[i,k]-r[i,k]) - log(n[i,k]-rhat[i,k])))        }

#  summed residual deviance contribution for this trial
   resdev[i] <- sum(dev[i,1:na[i]])
   for (k in 2:na[i]) {           # LOOP THROUGH ARMS
# trial-specific LOR distributions
      delta[i,k] ~ dnorm(md[i,k],taud[i,k])
# mean of LOR distributions (with multi-arm trial correction)
      md[i,k] <-  d[t[i,k]] - d[t[i,1]] + sw[i,k]
# precision of LOR distributions (with multi-arm trial correction)
      taud[i,k] <- tau *2*(k-1)/k
# adjustment for multi-arm RCTs
      w[i,k] <- (delta[i,k] - d[t[i,k]] + d[t[i,1]])
# cumulative adjustment for multi-arm trials
      sw[i,k] <- sum(w[i,1:k-1])/(k-1)
     }
  }
totresdev <- sum(resdev[])         # Total Residual Deviance
d[1]<-0      # treatment effect is zero for reference treatment
# vague priors for treatment effects
for (k in 2:nt){  d[k] ~ dnorm(0,.0001) }
sd ~ dunif(0,5)     # vague prior for between-trial SD
tau <- pow(sd,-2)   # between-trial precision = (1/between-trial variance)
```

```
# pairwise ORs and LORs for all possible pair-wise comparisons, if nt>2
for (c in 1:(nt-1)) {
for (k in (c+1):nt) {
or[c,k] <- exp(d[k] - d[c])
lor[c,k] <- (d[k]-d[c])
}
}
# ranking on relative scale
for (k in 1:nt) {
rk[k] <- nt+1-rank(d[],k) # assumes events are “good”
# rk[k] <- rank(d[],k) # assumes events are “bad”
best[k] <- equals(rk[k],1) #calculate probability that treat k is best
}
}
# *** PROGRAM ENDS
```

KQ 1: WinBUGS Dataset for SGA Dichotomous

#Full Network (star, closed loop, loop plus one, and ladder are subsets)

#Description of data inputs

#ns = Number of studies

#nt = Number of treatments (including placebo)

#t[,x] = Treatment indicator

#r[,x] = Number achieving response on HAM-D (50% improvement of scores from baseline)

#n[,x]= Number of all randomized patients (ITT)

#na[] = Number of arms in study

list(ns=64, nt=14)

t[,1]	t[,2]	t[,3]	r[,1]	r[,2]	r[,3]	n[,1]	n[,2]	n[,3]	na[]
1	2	7	73	76	83	152	150	154	3
1	2	12	66	78	66	124	122	118	3
1	2	12	55	77	79	121	120	119	3
1	4	NA	40	205	NA	161	324	NA	2
1	4	NA	39	52	NA	122	125	NA	2
1	4	NA	48	142	NA	126	249	NA	2
1	4	NA	36	46	NA	121	123	NA	2
1	4	5	61	132	74	164	315	159	3
1	5	NA	54	55	NA	141	141	NA	2
1	5	NA	49	64	NA	139	128	NA	2
1	5	NA	26	54	NA	122	123	NA	2
1	5	6	44	117	112	137	273	274	3
1	5	7	24	32	15	70	70	33	3
1	5	11	51	129	59	99	196	97	3
1	5	11	41	126	63	93	188	86	3
1	7	NA	18	132	NA	78	285	NA	2
1	7	11	10	31	32	19	54	55	3
1	7	14	37	45	51	102	104	102	3
1	7	14	41	52	54	98	103	100	3
1	8	NA	5	9	NA	18	18	NA	2
1	10	NA	15	25	NA	42	39	NA	2
1	10	NA	14	41	NA	45	90	NA	2
1	11	NA	12	24	NA	56	55	NA	2
1	12	NA	45	70	NA	129	129	NA	2
1	12	NA	16	19	NA	49	49	NA	2
1	12	NA	49	77	NA	150	149	NA	2
1	12	NA	43	65	NA	129	132	NA	2
1	12	NA	13	26	NA	116	111	NA	2
1	14	NA	29	53	NA	102	95	NA	2
2	7	NA	37	35	NA	61	62	NA	2
2	12	NA	81	93	NA	122	126	NA	2
2	13	NA	33	21	NA	63	61	NA	2

```
3	6	NA	87	83	NA	120	120	NA	2
3	8	NA	33	31	NA	108	109	NA	2
5	6	NA	66	83	NA	138	140	NA	2
5	6	NA	81	94	NA	151	144	NA	2
5	11	NA	144	157	NA	238	240	NA	2
6	7	NA	94	89	NA	123	117	NA	2
6	11	NA	175	146	NA	232	227	NA	2
6	12	NA	75	74	NA	107	108	NA	2
6	14	NA	59	47	NA	98	100	NA	2
7	9	NA	30	35	NA	66	66	NA	2
7	10	NA	27	29	NA	61	64	NA	2
7	11	NA	67	67	NA	101	102	NA	2
7	11	NA	27	30	NA	45	45	NA	2
7	11	NA	26	25	NA	50	50	NA	2
7	11	12	57	64	70	92	96	96	3
7	12	NA	35	48	NA	120	118	NA	2
7	12	NA	63	73	NA	144	142	NA	2
7	14	NA	31	36	NA	54	55	NA	2
7	14	NA	35	35	NA	47	40	NA	2
7	14	NA	98	81	NA	170	171	NA	2
7	14	NA	153	170	NA	186	196	NA	2
7	14	NA	95	107	NA	161	153	NA	2
7	14	NA	34	48	NA	73	73	NA	2
9	11	NA	74	66	NA	139	136	NA	2
9	13	NA	61	51	NA	100	100	NA	2
10	11	NA	11	16	NA	20	20	NA	2
10	12	NA	42	41	NA	78	82	NA	2
11	13	NA	48	48	NA	53	55	NA	2
12	13	NA	37	46	NA	60	62	NA	2
12	14	NA	41	49	NA	72	75	NA	2
12	14	NA	56	56	NA	79	84	NA	2
12	14	NA	45	49	NA	82	78	NA	2
END

#Set Initial Values
#chain 1
list(d=c( NA, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0), sd=1,
mu=c(0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
	0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
	0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
	0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
	0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
	0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
	0, 0, 0, 0))
#chain 2
list(d=c( NA, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1), sd=4,
mu=c(-3, -3, -3, -3, -3, -3, -3, -3, -3, -3,
	-3, -3, -3, -3, -3, -3, -3, -3, -3, -3,
	-3, -3, -3, -3, -3, -3, -3, -3, -3, -3,
	-3, -3, -3, -3, -3, -3, -3, -3, -3, -3,
	-3, -3, -3, -3, -3, -3, -3, -3, -3, -3,
```

```
        -3, -3, -3, -3, -3, -3, -3, -3, -3, -3,
         -3, -3, -3, -3))
#chain 3
list(d=c( NA, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2), sd=2,
mu=c(-3, 5, -1, -3, 7, -3, -4, -3, -3, 0,
        -3, -3, 0, 3, 5, -3, -3, -1, -3, -7,
        -3, -3, 5, -1, 7, 0, 1,-4, 5, 0,
        -3, 5, -1, -3, 7, -3, -4, -3, -3, 0,
        -3, -3, 0, 3, 5, -3, -3, -1, -3, -7,
        -3, -3, 5, -1, 7, 0, 1,-4, 5, 0,
        1, -1, 5, -4))
```

KQ1: WinBUGS Dataset for RA Dichotomous

#Full Network (star, closed loop, loop plus one, and ladder are subsets)

#Description of data inputs

#ns = Number of studies

#nt = Number of treatments (including placebo)

#t[,x] = Treatment indicator

#r[,x] = Number achieving response on ACR50

#n[,x]= Number of all randomized patients (ITT)

#na[] = Number of arms in study

list(ns=31, nt=9)

t[,1]	t[,2]	t[,3]	r[,1]	r[,2]	r[,3]	n[,1]	n[,2]	n[,3]	na[]
1	2	NA	36	169	NA	219	433	NA	2
1	2	NA	14	42	NA	119	115	NA	2
1	2	7	22	63	61	110	156	165	3
1	3	NA	9	84	NA	110	328	NA	2
1	3	NA	1	36	NA	70	142	NA	2
1	3	NA	5	37	NA	62	67	NA	2
1	3	NA	2	12	NA	12	35	NA	2
1	3	NA	36	92	NA	318	318	NA	2
1	3	NA	9	28	NA	63	65	NA	2
1	3	NA	19	166	NA	200	419	NA	2
1	4	NA	9	33	NA	121	232	NA	2
1	4	NA	2	22	NA	48	105	NA	2
1	4	NA	20	43	NA	253	253	NA	2
1	4	NA	0	16	NA	12	42	NA	2
1	5	NA	1	23	NA	30	59	NA	2
1	5	NA	3	25	NA	44	44	NA	2
1	5	NA	3	19	NA	29	29	NA	2
1	5	NA	4	31	NA	80	78	NA	2
1	6	NA	13	31	NA	133	89	NA	2
1	6	NA	2	13	NA	35	35	NA	2
1	7	NA	4	33	NA	47	100	NA	2
1	7	NA	33	229	NA	363	721	NA	2
1	7	NA	22	38	NA	86	87	NA	2
1	7	NA	1	3	NA	7	14	NA	2
1	7	NA	4	94	NA	88	340	NA	2
1	8	NA	5	17	NA	40	40	NA	2
1	8	NA	16	88	NA	172	340	NA	2
1	9	NA	14	45	NA	49	99	NA	2
1	9	NA	37	302	NA	415	805	NA	2
1	9	NA	22	157	NA	204	419	NA	2
1	9	NA	38	228	NA	394	802	NA	2

END

```
#Initial Values
#chain 1
list(d=c( NA, 0, 0, 0, 0, 0, 0, 0, 0), sd=1, mu=c(0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))
#chain 2
list(d=c( NA, -1, -1, -1, -1, -1, -1, -1, -1), sd=4, mu=c(-3, -3, -3, -3, -3, -3, -3, -3, -3, -3, -3, -3, -3, -3, -
3, -3, -3, -3, -3, -3, -3, -3, -3 , -3, -3, -3 , -3, -3, -3 , -3, -3, -3))
#chain 3
list(d=c( NA, 2, 2, 2, 2, 2, 2, 2, 2), sd=2, mu=c(-3, 5, -1, -3, 7, -3, -4, -3, -3, 0, -3, -3,0, 3, 5, -3, -3,
-1, -3, -7, -3, -3, 5, -1,7, 0, 1,-4, 5, 0, -1))
```

KQ1: Random Effects Model for Continuous Data

```
# Normal likelihood, identity link
# Random effects model for multi-arm trials

model{                          # *** PROGRAM STARTS

for(i in 1:ns){                 #   LOOP THROUGH STUDIES
   w[i,1] <- 0   # adjustment for multi-arm trials is zero for control arm
   delta[i,1] <- 0            # treatment effect is zero for control arm
   mu[i] ~ dnorm(0,.0001)          # vague priors for all trial baselines
   for (k in 1:na[i]) {            #  LOOP THROUGH ARMS
      var[i,k] <- pow(se[i,k],2)   # calculate variances
      prec[i,k] <- 1/var[i,k]      # set precisions
      y[i,k] ~ dnorm(theta[i,k],prec[i,k]) # binomial likelihood
      theta[i,k] <- mu[i] + delta[i,k]  # model for linear predictor
#Deviance contribution
      dev[i,k] <- (y[i,k]-theta[i,k])*(y[i,k]-theta[i,k])*prec[i,k]
     }
#  summed residual deviance contribution for this trial
   resdev[i] <- sum(dev[i,1:na[i]])
   for (k in 2:na[i]) {            # LOOP THROUGH ARMS
# trial-specific LOR distributions
      delta[i,k] ~ dnorm(md[i,k],taud[i,k])
# mean of LOR distributions, with multi-arm trial correction
      md[i,k] <-  d[t[i,k]] - d[t[i,1]] + sw[i,k]
# precision of LOR distributions (with multi-arm trial correction)
      taud[i,k] <- tau *2*(k-1)/k
# adjustment, multi-arm RCTs
      w[i,k] <- (delta[i,k] - d[t[i,k]] + d[t[i,1]])
# cumulative adjustment for multi-arm trials
      sw[i,k] <- sum(w[i,1:k-1])/(k-1)
     }
  }
totresdev <- sum(resdev[])          #Total Residual Deviance
d[1]<-0      # treatment effect is zero for control arm
# vague priors for treatment effects
for (k in 2:nt){  d[k] ~ dnorm(0,.0001) }
sd ~ dunif(0,5)     # vague prior for between-trial SD
tau <- pow(sd,-2)   # between-trial precision = (1/between-trial variance)

# All pairwise comparisons
for (c in 1:(nt-1)) {  for (k in (c+1):nt)  { diff[c,k] <- (d[c] - d[k] )}}
for (k in 1:nt) {
rk[k] <- nt+1-rank(d[],k) # assumes events are “good”
#rk[k] <- rank(d[],k) # assumes events are “bad”
best[k] <- equals(rk[k],1) #calculate probability that treat k is best
}

}                               # *** PROGRAM ENDS
```

KQ 1: WinBUGS Dataset for SGA Continuous

#Full Network (star, closed loop, loop plus one, and ladder are subsets)

#Description of data inputs

#ns = Number of studies

#nt = Number of treatments (including placebo)

#t[,x] = Treatment indicator

#y[,x] = Mean change from baseline in HAM-D score

#se[,x]= Standard error of mean change from baseline in HAM-D score

#na[] = Number of arms in study

list(ns=40, nt=14)

t[,1]	t[,2]	t[,3]	y[,1]	y[,2]	y[,3]	se[,1]	se[,2]	se[,3]	na[]
1	4	NA	-10.7	-13.2	NA	0.84	0.82	NA	2
1	4	NA	-9.3	-12.6	NA	0.74	0.75	NA	2
1	4	NA	-7.5	-9.1	NA	0.66	0.67	NA	2
1	5	6	-5.97	-7.61	-7.22	0.58	0.42	0.4	3
1	5	11	-8.8	-12.1	-11.7	0.5	0.5	0.5	3
1	5	11	-10.8	-12.1	-11.9	0.5	0.5	0.5	3
1	5	NA	-10.27	-10.85	NA	0.67	0.69	NA	2
1	7	11	-11.6	-10.8	-11.1	2.04	1.29	1.27	3
1	7	NA	-7.9	-10.3	NA	0.44	0.49	NA	2
1	7	NA	-7	-11.2	NA	0.98	0.86	NA	2
1	11	NA	-7.6	-7.8	NA	1.2	1.13	NA	2
1	12	NA	-8.8	-11.1	NA	0.65	0.63	NA	2
1	12	NA	-6.1	-6.1	NA	1.04	0.96	NA	2
1	12	NA	-9.2	-10.53	NA	0.67	0.72	NA	2
1	12	NA	-8.16	-11.66	NA	0.66	0.69	NA	2
1	14	NA	-7.3	-11.7	NA	0.71	0.75	NA	2
2	12	NA	-15.5	-16.3	NA	0.66	0.69	NA	2
3	6	NA	-13.8	-14.7	NA	0.69	0.76	NA	2
6	5	NA	-11.1	-9.6	NA	0.59	0.68	NA	2
6	7	NA	-15.8	-14.7	NA	0.59	0.74	NA	2
6	12	NA	-16.9	-16.1	NA	0.7	0.8	NA	2
6	14	NA	-14.9	-12.9	NA	0.91	0.92	NA	2
7	10	NA	-12.2	-11.4	NA	0.79	0.83	NA	2
7	11	NA	-14.78	-13.92	NA	0.11	0.11	NA	2
7	11	NA	-15	-17.3	NA	1.61	1.56	NA	2
7	13	NA	-12.2	-13.9	NA	0.91	1.02	NA	2
7	13	NA	-14.8	-17.1	NA	1.74	1.02	NA	2
7	14	NA	-14.4	-16.1	NA	0.88	0.7	NA	2
7	14	NA	-10.4	-14.4	NA	1.05	0.95	NA	2
8	11	NA	-15.9	-13.9	NA	0.66	0.66	NA	2
8	11	NA	-13.45	-12.86	NA	1.25	1.27	NA	2
8	12	NA	-23.7	-18	NA	1.72	1.5	NA	2
8	12	NA	-10.61	-10.98	NA	1.11	0.9	NA	2
9	11	NA	-9.22	-7.29	NA	0.51	0.54	NA	2
11	13	NA	-15	-14.6	NA	0.68	0.66	NA	2
11	14	NA	-14.1	-14.7	NA	0.6	0.57	NA	2
11	14	NA	-15.5	-15.7	NA	0.95	0.9	NA	2
12	13	NA	-11.5	-12.9	NA	1.08	1.15	NA	2

```
12      14      NA      -11.3   -12.7   NA      0.61    0.64    NA      2
12      14      NA      -15.9   -14.3   NA      0.95    0.94    NA      2
END

#Initial Values
#chain 1
list(d=c( NA, 0,0,0,0,0,0,0,0,0,0,0,0,0), sd=1, mu=c(0, 0, 0, 0, 0, 0, 0, 0 , 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0))
#chain 2
list(d=c( NA, -1,-3,-1,1,3,-1,-3, -1,1,3,-1,-3, 1), sd=4, mu=c(-3, -3, -3, -3, -3, -3, -3,-3,-3,-3,
-3, -3, -3, -3, -3, -3,-3,-3,-3,-3,
-3, -3, -3, -3, -3, -3,-3,-3,-3,-3,
-3, -3, -3, -3, -3, -3,-3,-3,-3,-3))
#chain 3
list(d=c( NA, 2,2,2,2,2,2,2,2,2,2,2,2,2), sd=2, mu=c(-3, 5, -1, -3, 7,  -3, -4, -3, 5, -1,
-3, 5, -1, -3, 7, -3, -4, -3, 5, -1,
-3, 5, -1, -3, 7, -3, -4, -3, 5, -1,
-3, 5, -1, -3, 7, -3, -4, -3, 5, -1))
```

KQ2: Random Effects Meta-Regression Model With a Subgroup Indicator Covariate

```
# Binomial likelihood, logit link, subgroup
# Random effects model for multi-arm trials

model{                          # *** PROGRAM STARTS
for(i in 1:ns){                 # LOOP THROUGH STUDIES
   w[i,1] <- 0    # adjustment for multi-arm trials is zero for control arm
   delta[i,1] <- 0            # treatment effect is zero for control arm
   mu[i] ~ dnorm(0,.0001)          # vague priors for all trial baselines
   for (k in 1:na[i]) {            # LOOP THROUGH ARMS
      r[i,k] ~ dbin(p[i,k],n[i,k]) # binomial likelihood
# model for linear predictor, covariate effect relative to treat in arm 1
      logit(p[i,k]) <- mu[i] + delta[i,k]
                 + (beta[t[i,k]]-beta[t[i,1]]) * x[i]
      rhat[i,k] <- p[i,k] * n[i,k] # expected value of the numerators
#Deviance contribution
      dev[i,k] <- 2 * (r[i,k] * (log(r[i,k])-log(rhat[i,k]))
         +  (n[i,k]-r[i,k]) * (log(n[i,k]-r[i,k]) - log(n[i,k]-rhat[i,k])))        }
#  summed residual deviance contribution for this trial
   resdev[i] <- sum(dev[i,1:na[i]])
   for (k in 2:na[i]) {            # LOOP THROUGH ARMS
# trial-specific LOR distributions
      delta[i,k] ~ dnorm(md[i,k],taud[i,k])
# mean of LOR distributions (with multi-arm trial correction)
      md[i,k] <-  d[t[i,k]] - d[t[i,1]] + sw[i,k]
# precision of LOR distributions (with multi-arm trial correction)
      taud[i,k] <- tau *2*(k-1)/k
# adjustment for multi-arm RCTs
      w[i,k] <- (delta[i,k] - d[t[i,k]] + d[t[i,1]])
# cumulative adjustment for multi-arm trials
      sw[i,k] <- sum(w[i,1:k-1])/(k-1)
     }
  }
totresdev <- sum(resdev[])          # Total Residual Deviance
d[1]<-0      # treatment effect is zero for reference treatment
beta[1] <- 0  # covariate effect is zero for reference treatment
for (k in 2:nt){  # LOOP THROUGH TREATMENTS
   d[k] ~ dnorm(0,.0001) # vague priors for treatment effects
   beta[k] <- B # common covariate effect
  }
B ~ dnorm(0,.0001) # vague prior for covariate effect
sd ~ dunif(0,5)     # vague prior for between-trial SD
tau <- pow(sd,-2)   # between-trial precision = (1/between-trial variance)
# treatment effect when covariate = z[j]
for (k in 1:nt){  # LOOP THROUGH TREATMENTS
   for (j in 1:nz) { dz[j,k] <- d[k] + (beta[k]-beta[1])*z[j] }
  }
# pairwise ORs and LORs for all possible pair-wise comparisons, if nt>2
```

```
for (c in 1:(nt-1)) {
    for (k in (c+1):nt)  {
# when covariate is zero
        or[c,k] <- exp(d[k] - d[c])
        lor[c,k] <- (d[k]-d[c])
# at covariate=z[j]
        for (j in 1:nz) {
            orz[j,c,k] <- exp(dz[j,k] - dz[j,c])
            lorz[j,c,k] <- (dz[j,k]-dz[j,c])
          }
     }
 }
}                                        # *** PROGRAM ENDS
```

KQ 2: WinBUGS Dataset for Meta-Regression With a Subgroup Indicator Covariate

# ns= number of studies; nt=number of treatments;
# z=values of covariate at which to calculate treatment effects; nz=length of z
list(ns=72, nt=14, z=c(1), nz=1)

t[,1]	t[,2]	t[,3]	r[,1]	r[,2]	r[,3]	n[,1]	n[,2]	n[,3]	x[]	na[]
1	2	7	73	76	83	152	150	154	0 3	
1	2	12	66	78	66	124	122	118	0 3	
1	2	12	55	77	79	121	120	119	0 3	
1	3	NA	34	34	NA	90	84	NA	1 2	
1	4	NA	40	205	NA	161	324	NA	0 2	
1	4	NA	39	52	NA	122	125	NA	0 2	
1	4	NA	48	142	NA	126	249	NA	0 2	
1	4	NA	36	46	NA	121	123	NA	0 2	
1	4	5	61	132	74	164	315	159	0 3	
1	5	NA	54	55	NA	141	141	NA	0 2	
1	5	NA	49	64	NA	139	128	NA	0 2	
1	5	NA	26	54	NA	122	123	NA	0 2	
1	5	6	44	117	112	137	273	274	0 3	
1	5	7	24	32	15	70	70	33	0 3	
1	5	11	51	129	59	99	196	97	0 3	
1	5	11	41	126	63	93	188	86	0 3	
1	7	NA	92	125	NA	336	335	NA	1 2	
1	7	NA	18	132	NA	78	285	NA	0 2	
1	7	11	10	31	32	19	54	55	0 3	
1	7	14	37	45	51	102	104	102	0 3	
1	7	14	41	52	54	98	103	100	0 3	
1	8	NA	5	9	NA	18	18	NA	0 2	
1	9	13	25	20	17	50	50	50	1 3	
1	10	NA	15	25	NA	42	39	NA	0 2	
1	10	NA	14	41	NA	45	90	NA	0 2	
1	11	NA	12	24	NA	56	55	NA	0 2	
1	11	11	72	85	100	180	168	177	1 3	
1	12	NA	45	70	NA	129	129	NA	0 2	
1	12	NA	16	19	NA	49	49	NA	0 2	
1	12	NA	49	77	NA	150	149	NA	0 2	
1	12	NA	43	65	NA	129	132	NA	0 2	
1	12	NA	96	126	NA	376	371	NA	1 2	
1	12	NA	13	26	NA	116	111	NA	0 2	
1	14	NA	29	53	NA	102	95	NA	0 2	
2	7	NA	37	35	NA	61	62	NA	0 2	
2	11	NA	34	40	NA	48	52	NA	1 2	
2	12	NA	81	93	NA	122	126	NA	0 2	
2	13	NA	33	21	NA	63	61	NA	0 2	
3	6	NA	87	83	NA	120	120	NA	0 2	
3	8	NA	33	31	NA	108	109	NA	0 2	
5	6	NA	66	83	NA	138	140	NA	0 2	
5	6	NA	81	94	NA	151	144	NA	0 2	
5	11	NA	144	157	NA	238	240	NA	0 2	

```
6	7	NA	94	89	NA	123	117	NA	0 2
6	11	NA	175	146	NA	232	227	NA	0 2
6	12	NA	75	74	NA	107	108	NA	0 2
6	14	NA	59	47	NA	98	100	NA	0 2
7	9	NA	30	35	NA	66	66	NA	0 2
7	10	NA	27	29	NA	61	64	NA	0 2
7	11	NA	67	67	NA	101	102	NA	0 2
7	11	NA	27	30	NA	45	45	NA	0 2
7	11	NA	26	25	NA	50	50	NA	0 2
7	11	12	57	64	70	92	96	96	0 3
7	12	NA	84	85	NA	119	117	NA	1 2
7	12	NA	35	48	NA	120	118	NA	0 2
7	12	NA	63	73	NA	144	142	NA	0 2
7	14	NA	31	36	NA	54	55	NA	0 2
7	14	NA	35	35	NA	47	40	NA	0 2
7	14	NA	98	81	NA	170	171	NA	0 2
7	14	NA	153	170	NA	186	196	NA	0 2
7	14	NA	95	107	NA	161	153	NA	0 2
7	14	NA	34	48	NA	73	73	NA	0 2
8	12	NA	28	25	NA	40	48	NA	1 2
9	11	NA	74	66	NA	139	136	NA	0 2
9	13	NA	61	51	NA	100	100	NA	0 2
10	11	NA	11	16	NA	20	20	NA	0 2
10	12	NA	42	41	NA	78	82	NA	0 2
11	13	NA	48	48	NA	53	55	NA	0 2
12	13	NA	37	46	NA	60	62	NA	0 2
12	14	NA	41	49	NA	72	75	NA	0 2
12	14	NA	56	56	NA	79	84	NA	0 2
12	14	NA	45	49	NA	82	78	NA	0 2
END


#Initial Values
#chain 1
list(d=c( NA, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0), mu=c(0,0,0,0,0,   0,0,0,0,0,   0,0,0,0,0,   0,0,0,0,0,
0,0,0,0,0,  0,0,0,0,0,  0,0,0,0,0,  0,0,0,0,0,  0,0,0,0,0,  0,0,0,0,0,  0,0,0,0,0,  0,0,0,0,0,
0,0,0,0,0, 0,0,0,0,0,   0,0), B=0, sd=1)
#chain 2
list(d=c( NA, -1, -1, -2, -1, -1, -2, -1, -1, -2, -1, -1, -2, 1), mu=c(-3,-3, 3,-3, 3, -3, 3,-3, 3,-3,
-3,-3, 3, 3, -3, 3, -3, -3, 3, -3, 3,-3,3,-3, -3, 3,-3,3,-3, -3, 3,-3,3,-3,-3, 3,-3,3,-3, -3, 3,-3,3,-3,-3, 3,-
3,3,-3, -3, 3,-3,3,-3,-3, 3,-3,3,-3,-3, 3,-3,3,-3,-3, 3,-3,3,-3, 3,-3  ), B=-1, sd=3)
```

KQ2: Random Effects Continuous Covariate Meta-Regression Model

```
# Binomial likelihood, logit link
# Random effects model for multi-arm trials
model{                          # *** PROGRAM STARTS
for(i in 1:ns){                 # LOOP THROUGH STUDIES
   w[i,1] <- 0   # adjustment for multi-arm trials is zero for control arm
   delta[i,1] <- 0            # treatment effect is zero for control arm
   mu[i] ~ dnorm(0,.0001)          # vague priors for all trial baselines
   for (k in 1:na[i]) {            # LOOP THROUGH ARMS
      r[i,k] ~ dbin(p[i,k],n[i,k]) # binomial likelihood
# model for linear predictor
      logit(p[i,k]) <- mu[i] + delta[i,k]
                 + (beta[t[i,k]]-beta[t[i,1]]) * (x[i]-mx)
      rhat[i,k] <- p[i,k] * n[i,k] # expected value of the numerators
#Deviance contribution
      dev[i,k] <- 2 * (r[i,k] * (log(r[i,k])-log(rhat[i,k]))
         +  (n[i,k]-r[i,k]) * (log(n[i,k]-r[i,k]) - log(n[i,k]-rhat[i,k])))        }
#  summed residual deviance contribution for this trial
   resdev[i] <- sum(dev[i,1:na[i]])
   for (k in 2:na[i]) {            # LOOP THROUGH ARMS
# trial-specific LOR distributions
      delta[i,k] ~ dnorm(md[i,k],taud[i,k])
# mean of LOR distributions (with multi-arm trial correction)
# covariate effect relative to treat in arm 1
      md[i,k] <-  d[t[i,k]] - d[t[i,1]] + sw[i,k]
# precision of LOR distributions (with multi-arm trial correction)
      taud[i,k] <- tau *2*(k-1)/k
# adjustment for multi-arm RCTs
      w[i,k] <- (delta[i,k] - d[t[i,k]] + d[t[i,1]])
# cumulative adjustment for multi-arm trials
      sw[i,k] <- sum(w[i,1:k-1])/(k-1)
     }
  }
totresdev <- sum(resdev[])          # Total Residual Deviance
d[1]<-0      # treatment effect is zero for reference treatment
beta[1] <- 0  # covariate effect is zero for reference treatment
# vague priors for treatment effects
for (k in 2:nt){
   d[k] ~ dnorm(0,.0001)
   beta[k] <- B # common covariate effect
  }
B ~ dnorm(0,.0001) # vague prior for covariate effect
sd ~ dunif(0,5)     # vague prior for between-trial SD
tau <- pow(sd,-2)   # between-trial precision = (1/between-trial variance)
# treatment effect when covariate = z[j] (un-centring treatment effects)
for (k in 1:nt){
   for (j in 1:nz) { dz[j,k] <- d[k] - (beta[k]-beta[1])*(mx-z[j]) }
  }
```

```
# pairwise ORs and LORs for all possible pair-wise comparisons, if nt>2
for (c in 1:(nt-1)) {
   for (k in (c+1):nt)  {
# at mean value of covariate
       or[c,k] <- exp(d[k] - d[c])
       lor[c,k] <- (d[k]-d[c])
# at covariate=z[j]
       for (j in 1:nz) {
           orz[j,c,k] <- exp(dz[j,k] - dz[j,c])
           lorz[j,c,k] <- (dz[j,k]-dz[j,c])
         }
    }
 }
# ranking on relative scale
for (k in 1:nt) {
rk[k] <- nt+1-rank(d[],k) # assumes events are “good”
#rk[k] <- rank(d[],k) # assumes events are “bad”
best[k] <- equals(rk[k],1) #calculate probability that treat k is best
}                                    # *** PROGRAM ENDS
```

KQ 2: WinBUGS Dataset for Continuous Covariate Meta-Regression

# Data (RA with ACR50 – covariate x[] is disease duration)
list(ns=28, nt=9, mx=8.50, z=c(1,2,10), nz=3)

t[,1]	t[,2]	t[,3]	na[]	n[,1]	n[,2]	n[,3]	r[,1]	r[,2]	r[,3]	x[]
1	2	NA	2	219	433	NA	36	169	NA	8.7
1	2	NA	2	119	115	NA	14	42	NA	9.3
1	2	7	3	110	156	165	22	63	61	7.87
1	3	NA	2	318	318	NA	36	92	NA	10.4
1	3	NA	2	70	142	NA	1	36	NA	10
1	3	NA	2	110	328	NA	9	84	NA	11.2
1	3	NA	2	200	419	NA	19	166	NA	10.9
1	3	NA	2	62	67	NA	5	37	NA	12.3
1	3	NA	2	63	65	NA	9	28	NA	6.85
1	3	NA	2	12	35	NA	2	12	NA	7.25
1	4	NA	2	121	232	NA	9	33	NA	3.9
1	4	NA	2	253	253	NA	20	43	NA	10.5
1	4	NA	2	48	105	NA	2	22	NA	7.55
1	5	NA	2	80	78	NA	4	31	NA	12
1	5	NA	2	30	59	NA	1	23	NA	13
1	6	NA	2	133	89	NA	13	31	NA	5.5
1	6	NA	2	35	35	NA	2	13	NA	7.8
1	7	NA	2	47	100	NA	4	33	NA	7.8
1	7	NA	2	7	14	NA	1	3	NA	6.2
1	7	NA	2	363	721	NA	33	229	NA	7.5
1	7	NA	2	86	87	NA	22	38	NA	7.55
1	7	NA	2	88	340	NA	4	94	NA	8.6
1	8	NA	2	172	340	NA	16	88	NA	7
1	8	NA	2	40	40	NA	5	17	NA	11.5
1	9	NA	2	204	419	NA	22	157	NA	7.65
1	9	NA	2	49	99	NA	14	45	NA	0.865
1	9	NA	2	415	805	NA	37	302	NA	9.8
1	9	NA	2	394	802	NA	38	228	NA	9

END

Initial values for RE model
#chain 1
list(d=c(NA, 0,0,0,0,0,0, 0, 0), mu=c(0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0), sd=1, B=0)
#chain 2
list(d=c(NA, -1,1,-1,1,-1,1, -1, 1), mu=c(-3, -3, -3, -3, -3, -3, -3, -3, -3, -3, -3, -3, -3, -3, -3, -3, -3, -3, -3, -3, -3, -3, -3, -3, -3, -3, -3, -3, -3), sd=0.5, B=-1)
#chain 3
list(d=c(NA, 2,-2,2,-2,2,-2, 2, -2), mu=c(-3, 5, -1, -3, 7, -3, -4, -3, -3, 0, 5, 0, -3, 5, -1, -3, 7, -3, -4, -3, -3, 0, 5, 0, 1,-1, 3,4), sd=3, B=5)

Simulation Code Related to Key Question 3

Initially, we created two master datasets from which to sample sub-datasets for each of the different network pattern and sample size criteria. Each dataset reflected a different scenario we wanted to introduce to the Bayesian MTC models. The datasets were created by drawing from binomial distributions of varying probability of response and sample size. The SAS version 9.2 code is presented below.

```
/* master_even: dataset where drugs have equal efficacy and drug1 low efficacy */
data master_even (drop=i);
	do i=1 to 10000;
		r1 = rand('BINOM',0.1, 100);
		r2 = rand('BINOM',0.5, 100);
		r3 = rand('BINOM',0.5, 100);
		r4 = rand('BINOM',0.5, 100);
		output;
	end;
run;

/* master_winnner: dataset where one drug has a high efficacy and the others low efficacy */
data master_winner (drop=i);
n=100;
	do i=1 to 10000;
		r1 = rand('BINOM',0.2, 100);
		r2 = rand('BINOM',0.2, 100);
		r3 = rand('BINOM',0.2, 100);
		r4 = rand('BINOM',0.8, 100);
		output;
	end;
run;
```

WinBUGS Datasets

From these master datasets, sub-datasets for WinBUGS were created for each of the network patterns and sample size criteria. A total of 40,000 datasets were created by taking successive studies in each of the master datasets. In that way, studies were sanpled without replacement. An example dataset is shown below.

```
#Star network, study sample size = 2
#Description of data inputs
#ns = Number of studies
#nt = Number of treatments (including placebo)
#t[,x] = Treatment indicator
#r[,x] = Number achieving response
#n[,x]= Number of all randomized patients (ITT)
#na[] = Number of arms in study

list(ns=6, nt=4)

t[,1]   t[,2]   t[,3]   r[,1]   r[,2]   r[,3]   n[,1]   n[,2]   n[,3]   na[]
1       2       7       73      76      83      152     150     154     2
1       2       12      66      78      66      124     122     118     2
1       2       12      55      77      79      121     120     119     2
1       4       NA      40      205     NA      161     324     NA      2
1       4       NA      39      52      NA      122     125     NA      2
1       4       NA      48      142     NA      126     249     NA      2
END
#Set Initial Values
#chain 1
list(d=c( NA, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0), sd=1,
mu=c(0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
        0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
        0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
        0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
        0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
        0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
        0, 0, 0, 0))
```

Random Effects Model for Dichotomous Data

```
# Binomial likelihood, logit link
# Random effects model for multi-arm trials

model{                          # *** PROGRAM STARTS

for(i in 1:ns){                 # LOOP THROUGH STUDIES
   w[i,1] <- 0   # adjustment for multi-arm trials is zero for control arm
   delta[i,1] <- 0            # treatment effect is zero for control arm
   mu[i] ~ dnorm(0,.0001)          # vague priors for all trial baselines
   for (k in 1:na[i]) {            # LOOP THROUGH ARMS
      r[i,k] ~ dbin(p[i,k],n[i,k]) # binomial likelihood
      logit(p[i,k]) <- mu[i] + delta[i,k]  # model for linear predictor
      rhat[i,k] <- p[i,k] * n[i,k] # expected value of the numerators

#Deviance contribution
      dev[i,k] <- 2 * (r[i,k] * (log(r[i,k])-log(rhat[i,k]))
         +  (n[i,k]-r[i,k]) * (log(n[i,k]-r[i,k]) - log(n[i,k]-rhat[i,k])))        }

#  summed residual deviance contribution for this trial
   resdev[i] <- sum(dev[i,1:na[i]])
   for (k in 2:na[i]) {            # LOOP THROUGH ARMS
# trial-specific LOR distributions
      delta[i,k] ~ dnorm(md[i,k],taud[i,k])
# mean of LOR distributions (with multi-arm trial correction)
      md[i,k] <-  d[t[i,k]] - d[t[i,1]] + sw[i,k]
# precision of LOR distributions (with multi-arm trial correction)
      taud[i,k] <- tau *2*(k-1)/k
# adjustment for multi-arm RCTs
      w[i,k] <- (delta[i,k] - d[t[i,k]] + d[t[i,1]])
# cumulative adjustment for multi-arm trials
      sw[i,k] <- sum(w[i,1:k-1])/(k-1)
     }
  }
totresdev <- sum(resdev[])          # Total Residual Deviance
d[1]<-0      # treatment effect is zero for reference treatment
# vague priors for treatment effects
for (k in 2:nt){  d[k] ~ dnorm(0,.0001) }
sd ~ dunif(0,5)     # vague prior for between-trial SD
tau <- pow(sd,-2)   # between-trial precision = (1/between-trial variance)
```

```
# ranking on relative scale
for (k in 1:nt) {
rk[k] <- nt+1-rank(d[],k) # assumes events are “good”
# rk[k] <- rank(d[],k) # assumes events are “bad”
best[k] <- equals(rk[k],1) #calculate probability that treat k is best
}
}
# *** PROGRAM ENDS
```

References

1. Dias S, Sutton AJ, Welton NJ, et al. NICE DSU Technical Support Document 3: Heterogeneity: subgroups, meta-regression, bias and bias-adjustment. Report by the Decision Support Unit. 2011. http://www.nicedsu.org.uk/TSD3%20Heterogeneity_final%20report_docx.pdf. Accessed on May 4 2012.

2. Dias S, Welton NJ, Sutton AJ, et al. NICE DSU Technical Support Document 2: A Generalised Linear Modelling Framework for Pairwise and Network Meta-Analysis of Randomised Controlled Trials. last updated August 2011; 2011. http://www.nicedsu.org.uk.

Appendix B: Summary of Studies Included in Analyses

Table B-1. Summary of studies included in analyses of response for second-generation antidepressants

Study	N	Duration	Comparison and Dose (mg/day)	Response[a]	Population
Feighner, 1991[1]	123	6 weeks	Bupropion 225-450 Fluoxetine 20-80	37/61 35/62	Adults
Coleman, 2001[2]	456	8 weeks	Bupropion 150-400 Fluoxetine 50-200 Placebo	76/150 83/154 73/152	Adults
Weihs, 2000[3]	100	6 weeks	Bupropion 100-300 Paroxetine 10-40	34/48 40/52	Older adults
Rush, 2001[4]	248	16 weeks	Bupropion 100-300 Sertraline 50-200	81/122 93/126	Adults
Coleman, 1999[5]	364	8 weeks	Bupropion 150-400 Sertraline 50-200 Placebo	78/122 66/118 66/124	Adults
Croft, 1999[6]	360	8 weeks	Bupropion 150-400 Sertraline 50-200 Placebo	77/120 79/119 55/121	Adults
Weisler, 1994[7]	124	6 weeks	Bupropion 225-450 Trazodone 150-400	33/63 21/61	Adults
Ou, 2011[8]	240	6 weeks	Citalopram 20-40 Escitalopram 10-20	87/120 83/120	Adults
Haffmans, 1996[9]	217	6 weeks	Citalopram 20-40 Fluvoxamine 100-200	33/108 31/109	Adults
Roose, 2004[10]	174	8 weeks	Citalopram 10-40 Placebo	34/84 34/90	Older adults
Tourian, 2009[11]	638	8 weeks	Desvenlafaxine 50-100 Duloxetine 60 Placebo	132/315 74/159 61/164	Adults
Feiger, 2009[12]	244	8 weeks	Desvenlafaxine 200-400 Placebo	46/123 36/121	Adults
Boyer, 2008[13]	485	8 weeks	Desvenlafaxine 50-100 Placebo	205/324 40/161	Adults
Liebowitz, 2007[14]	247	8 weeks	Desvenlafaxine 100-200 Placebo	52/125 39/122	Adults
Septien-Velez, 2007[15]	375	8 weeks	Desvenlafaxine 200-400 Placebo	142/249 48/126	Adults
Khan, 2007[16]	278	8 weeks	Duloxetine 60 Escitalopram 10-20	66/138 83/140	Adults
Wade, 2007[17]	295	24 weeks	Duloxetine 60 Escitalopram 20	81/151 94/144	Adults
Nierenberg,2007.[18]	684	8 weeks	Duloxetine 40-60 Escitalopram 10-20 Placebo	117/273 112/274 44/137	Adults
Goldstein, 2002[19]	173	8 weeks	Duloxetine 40-120 Fluoxetine 20 Placebo	32/70 15/33 24/70	Adults
Lee, 2007[20]	478	8 weeks	Duloxetine 60 Paroxetine 20	144/238 157/240	Adults

Table B-1. Summary of studies included in analyses of response for second-generation antidepressants (continued)

Study	N	Duration	Comparison and Dose (mg/day)	Response[a]	Population
Detke, 2004[21]	367	8 weeks	Duloxetine 80-120 Paroxetine 20 Placebo	126/188 63/86 41/93	Adults
Perahia, 2006[22]	393	8 weeks	Duloxetine 80-120 Paroxetine 20 Placebo	129/196 59/97 51/99	Adults
Brannan, 2005[23]	282	7 weeks	Duloxetine 60 Placebo	55/141 54/141	Adults
Detke, 2002a[24]	267	9 weeks	Duloxetine 60 Placebo	64/128 49/139	Adults
Detke, 2002b[25]	245	9 weeks	Duloxetine 60 Placebo	54/123 26/122	Adults
Mao, 2008[26]	240	8 weeks	Escitalopram 10 Fluoxetine 20	94/123 89/117	Adults
Boulenger, 2006[27]	459	24 weeks	Escitalopram 10-20 Paroxetine 20-40	175/232 146/227	Adults
Ventura, 2007[28]	215	8 weeks	Escitalopram 10 Sertraline 50-200	75/107 74/108	Adults
Bielski, 2004[29]	198	8 weeks	Escitalopram 20 Venlafaxine 225	59/98 47/100	Adults
Hong, 2003[30]	132	6 weeks	Fluoxetine 20-40 Mirtazapine 15-45	30/66 35/66	Adults
Rush, 1998[31]	125	8 weeks	Fluoxetine 20-40 Nefazodone 100-500	27/61 29/64	Adults
De Wilde, 1993[32]	100	6 weeks	Fluoxetine 20-60 Paroxetine 20-40	26/50 25/50	Adults
Gagiano, 1993[33]	90	6 weeks	Fluoxetine 20-60 Paroxetine 20-40	27/45 30/45	Adults
Chouinard, 1999[34]	203	12 weeks	Fluoxetine 20-80 Paroxetine 20-50	67/101 67/102	Adults
Fava, 1998[35]	128	12 weeks	Fluoxetine 20-80 Paroxetine 20-50 Placebo	31/54 32/55 10/19	Adults
Fava, 2002[36]	284	10-16 weeks	Fluoxetine 20-60 Paroxetine 20-60 Sertraline 50-200	57/92 64/96 70/96	Adults
Wernicke, 1988[37]	363	6 weeks	Fluoxetine 5-40 Placebo	132/285 18/78	Adults
Tollefson, 1993[38]	671	6 weeks	Fluoxetine 20 Placebo	125/335 92/336	Older adults
Bennie, 1995[39]	286	6 weeks	Fluoxetine 20-40 Sertraline 50-100	63/144 73/142	Adults
Sechter, 1999[40]	238	24 weeks	Fluoxetine 20-60 Sertraline 50-150	35/120 48/118	Adults
Newhouse, 2005[41]	236	12 weeks	Fluoxetine 20-40 Sertraline 50-100	84/119 85/117	Older adults
Dierick, 1996[42]	314	8 weeks	Fluoxetine 20 Venlafaxine 75-150	95/161 107/153	Adults
Tylee, 1997[43]	341	12 weeks	Fluoxetine 20 Venlafaxine 75	98/170 81/171	Adults
Costa e Silva, 1998[44]	382	8 weeks	Fluoxetine 20-40 Venlafaxine 75-150	153/186 170/196	Adults
Alves, 1999[45]	87	12 weeks	Fluoxetine 20-40 Venlafaxine 75-150	35/47 35/40	Adults

Table B-1. Summary of studies included in analyses of response for second-generation antidepressants (continued)

Study	N	Duration	Comparison and Dose (mg/day)	Response[a]	Population
Tzanakaki, 2000[46]	109	6 weeks	Fluoxetine 20-60 Venlafaxine 75-250	31/54 36/55	Adults
De Nayer, 2002[47]	146	12 weeks	Fluoxetine 20 Venlafaxine 75	34/73 48/73	Adults
Rudolph, 1999[48]	301	8 weeks	Fluoxetine 20-60 Venlafaxine 75-225 Placebo	52/103 54/100 41/98	Adults
Nemeroff, 2007[49]	308	6 weeks	Fluoxetine 20-60 Venlafaxine 75-225 Placebo	45/104 51/102 37/102	Adults
Lydiard, 1989[50]	36	6 weeks	Fluvoxamine 100-300 Placebo	9/18 5/18	Adults
Rossini, 2005[51]	88	7 weeks	Fluvoxamine 200 Sertraline 150	28/40 25/48	Older adults
Benkert, 2000[52]	275	6 weeks	Mirtazapine 20-40 Paroxetine 15-45	74/139 66/136	Adults
Halikas, 1995[53]	150	6 weeks	Mirtazapine 5-35 Trazodone 40-280 Placebo	20/50 17/50 25/50	Older adults
van Moffaert, 1995[54]	200	6 weeks	Mirtazapine 24-72 Trazodone 150-450	61/100 51/100	Adults
Hicks, 2002[55]	40	8 weeks	Nefazodone 400-600 Paroxetine 20-40	11/20 16/20	Adults
Cohn, 1996[56]	81	8 weeks	Nefazodone 200-600 Placebo	25/39 15/42	Adults
Fontaine, 1994[57]	135	6 weeks	Nefazodone 100-500 Placebo	41/90 14/45	Adults
Feiger, 1996[58]	160	6 weeks	Nefazodone 100-600 Sertraline 50-200	42/78 41/82	Adults
Rickels, 1989[59]	111	6 weeks	Paroxetine 10-50 Placebo	24/55 12/56	Adults
Rapaport, 2009[60]	525	10 weeks	Paroxetine 12.5-25 Placebo	185/345 72/180	Older adults
Kasper, 2005[61]	108	6 weeks	Paroxetine 20-40 Trazodone 150-450	48/53 48/55	Adults
Reimherr, 1990[62]	299	8 weeks	Sertraline 20-200 Placebo	77/149 49/150	Adults
Lydiard, 1997[63]	261	8 weeks	Sertraline 50-200 Placebo	65/132 43/129	Adults
Olie, 1997[64]	258	6 weeks	Sertraline 50-200 Placebo	70/129 45/129	Adults
Hypericum Group, 2002[65]	227	8 weeks	Sertraline 50-100 Placebo	26/111 13/116	Adults
Schneider, 2003[66]	747	8 weeks	Sertraline 50-100 Placebo	126/371 96/376	Older adults
Blumenthal, 2007[67]	98	16 weeks	Sertraline 50-200 Placebo	19/49 16/49	Adults
Munizza, 2006[68]	122	6 weeks	Sertraline 50-100 Trazodone 150-450	37/60 46/62	Adults
Mehtonen, 2000[69]	147	8 weeks	Sertraline 50-100 Venlafaxine 75-150	41/72 49/75	Adults
Sir, 2005[70]	163	8 weeks	Sertraline 50-150 Venlafaxine 75-225	56/79 56/84	Adults

Table B-1. Summary of studies included in analyses of response for second-generation antidepressants (continued)

Study	N	Duration	Comparison and Dose (mg/day)	Response[a]	Population
Shelton, 2006[71]	160	8 weeks	Sertraline 50-150 Venlafaxine 75-225	45/82 49/78	Adults
Thase, 1997[72]	197	8 weeks	Venlafaxine 75-225 Placebo	53/95 29/102	Adults

Note: Studies are listed alphabetically by drug and chronologically within each set of drugs

[a] Response (as defined by the authors of the individual studies) is measured on the Hamilton Depression Rating Scale (HAM-D); response is presented as the number of responders out of the number in the group.

Abbreviations: mg = milligram

Table B-2. Summary of studies included in analyses of mean change in HAM-D for second-generation antidepressants

Study	N	Duration	Comparison and Dose (mg/day)	Mean change in HAM-D (SE)
Rush, 2001[4]	248	16 weeks	Bupropion 100-300 Sertraline 50-200	-15.5 (0.66) -16.3 (0.69)
Ou, 2011[8]	232	6 weeks	Citalopram 20-40 Escitalopram 10-20	-13.8 (0.69) -14.7 (0.76)
Septien-Velez, 2007[15]	245	8 weeks	Desvenlafaxine 200-400 Placebo	-12.6 (0.75) -9.3 (0.74)
Boyer, 2008[13]	325	8 weeks	Desvenlafaxine 50-100 Placebo	-13.2 (0.82) -10.7 (0.84)
Feiger, 2009[12]	235	8 weeks	Desvenlafaxine 200-400 Placebo	-9.1 (0.67) -7.5 (0.66)
Khan, 2007[16]	262	8 weeks	Duloxetine 60 Escitalopram10-20	-9.6 (0.68) -11.1 (0.59)
Nierenberg, 2007[18]	684	8 weeks	Duloxetine 60 Escitalopram 10 Placebo	-7.61 (0.42) -7.22 (0.40) -5.97 (0.58)
Detke, 2004[21]	272	8 weeks	Duloxetine 80-120 Paroxetine 20 Placebo	-12.1 (0.50) -11.7 (0.50) -8.8 (0.50)
Perahia, 2006[22]	289	8 weeks	Duloxetine 80-120 Paroxetine 20 Placebo	-12.1 (0.50) -11.7 (0.50) -8.8 (0.50)
Brannan, 2005[23]	268	7 weeks	Duloxetine 60 Placebo	-10.85 (0.69) -10.27 (0.67)
Mao, 2008[26]	231	8 weeks	Escitalopram 10 Fluoxetine 20	-15.8 (0.59) -14.7 (0.74)
Ventura, 2007[28]	211	8 weeks	Escitalopram 10 Sertraline 50-200	-16.9 (0.70) -16.1 (0.80)
Bielski, 2004[29]	195	8 weeks	Escitalopram 20 Venlafaxine 225	-14.9 (0.91) -12.9 (0.92)
Rush, 1998[31]	122	8 weeks	Fluoxetine 20-40 Nefazodone 200-500	-12.2 (0.79) -11.4 (0.83)
De Wilde, 1993[32]	78	6 weeks	Fluoxetine 20-60 Paroxetine 20-40	-15.0 (1.61) -17.3 (1.56)
Chouinard, 1999[34]	198	12 weeks	Fluoxetine 20-80 Paroxetine 20-50	-14.8 (0.11) -13.9 (0.11)
Fava, 1998[35]	128	12 weeks	Fluoxetine 20-80 Paroxetine 20-50 Placebo	-10.8 (1.29) -11.1 (1.27) -11.6 (2.04)
Wernicke, 1988[37]	169	6 weeks	Fluoxetine 5-40 Placebo	-11.2 (0.86) -7.0 (0.98)
Tollefson, 1993[38]	534	6 weeks	Fluoxetine 20 Placebo	-10.3 (0.49) -7.9 (0.44)
Perry, 1989[73]	40	6 weeks	Fluoxetine 21-50 Trazodone 241-337	-14.8 (1.74) -17.1 (1.02)
Beasley, 1991[74]	120	6 weeks	Fluoxetine 20-40 Trazodone 50-400	-12.2 (0.91) -13.9 (1.02)
Dierick, 1996[42]	314	8 weeks	Fluoxetine 20 Venlafaxine 75-150	-14.4 (0.88) -16.1 (0.70)
De Nayer, 2002[47]	131	12 weeks	Fluoxetine 20 Venlafaxine 75	-10.4 (1.05) -14.4 (0.95)
Kiev, 1997[75]	58	7 weeks	Fluvoxamine 50 Paroxetine 20	-13.5 (1.3) -12.9 (1.3)
Ushiroyama, 2004[76]	105	12 weeks	Fluvoxamine 50 Paroxetine 20	-15.9 (0.66) -13.9 (0.66)

Table B-2. Summary of studies included in analyses of mean change in HAM-D for second-generation antidepressants (continued)

Study	N	Duration	Comparison and Dose (mg/day)	Mean change in HAM-D (SE)
Nemeroff, 1995[77]	92	7 weeks	Fluvoxamine 50-150 Sertraline 50-200	-10.6 (1.11) -11.0 (0.90)
Rossini, 2005[51]	84	7 weeks	Fluvoxamine 50-200 Sertraline 25-150	-23.7 (1.72) -18.0 (1.50)
Schatzberg, 2002[78]	246	8 weeks	Mirtazapine 15-45 Paroxetine 20-40	-9.2 (0.51) -7.3 (0.54)
Ehde, 2008[79]	42	12 weeks	Paroxetine 10-40 Placebo	-7.8 (1.13) -7.6 (1.20)
Kasper, 2005[61]	108	6 weeks	Paroxetine 20-40 Trazodone 150-450	-15.0 (0.68) -14.6 (0.66)
McPartlin, 1998[80]	336	12 weeks	Paroxetine 20 Venlafaxine 75	-14.1 (0.60) -14.7 (0.57)
Ballus, 2000[81]	84	24 weeks	Paroxetine 20-40 Venlafaxine 75-150	-15.5 (0.95) -15.7 (0.90)
Reimherr, 1990[62]	283	8 weeks	Sertraline 50-200 Placebo	-11.7 (0.69) -8.2 (0.66)
Lydiard, 1997[63]	234	8 weeks	Sertraline 50-200 Placebo	-11.1 (0.63) -8.8 (0.65)
Hypericum, 2002[65]	225	8 weeks	Sertraline 50-100 Placebo	-10.5 (0.72) -9.2 (0.67)
Blumenthal, 2007[67]	98	16 weeks	Sertraline 50-200 Placebo	-6.1 (0.96) -6.1 (1.04)
Munizza, 2006[68]	121	6 weeks	Sertraline 50-100 Trazodone 150-450	-11.5 (1.08) -12.9 (1.15)
Sir, 2005[70]	158	8 weeks	Sertraline 50-150 Venlafaxine 75-225	-15.9 (0.95) -14.3 (0.94)
Shelton, 2006[71]	158	8 weeks	Sertraline 50-150 Venlafaxine 75-225	-11.3 (0.61) -12.7 (0.64)
Thase, 1997[72]	191	8 weeks	Venlafaxine 75-225 Placebo	-11.7 (0.75) -7.3 (0.71)

Note: studies are listed alphabetically by drug and chronologically within each set of drugs

Abbreviations: mg = milligram; SE = standard error

Table B-3. Summary of studies included in analyses of ACR50 response for biologic DMARDs

Author, Year Study Name	N	Comparison and Dose	Disease Duration (yrs)	Response[a]
Kremer, 2003[82] NR	234	Abatacept 10 mg/kg Placebo	9.7 8.9	42/115 14/119
Kremer, 2006[83] AIM	652	Abatacept 10 mg/kg Placebo	8.5 8.9	169/433 36/219
Schiff, 2008[84] ATTEST	431	Abatacept 10 mg/kg Infliximab 3 mg/kg Placebo	7.9 7.3 8.4	63/156 61/165 22/110
Furst, 2003[85] STAR	636	Adalimumab 40 mg Placebo	9.3 11.5	92/318 36/318
van de Putte, 2003[86] NR	212	Adalimumab 20 mg, 40 mg Placebo	10.2 9.4	36/142 1/70
Weinblatt, 2003[87] ARMADA	129	Adalimumab 40 mg Placebo	12.2 11.1	37/67 5/62
Keystone, 2004[88] NR	619	Adalimumab 20 mg, 40 mg Placebo	11.0 10.9	166/419 19/200
van de Putte, 2004[89] NR	438	Adalimumab 20 mg, 40 mg Placebo	10.8 11.6	84/328 9/110
Kim, 2007[90] NR	128	Adalimumab 40 mg Placebo	6.8 6.9	28/65 9/63
Chen, 2009[91] NR	47	Adalimumab 40 mg Placebo	6.2 8.3	12/35 2/12
Bresnihan, 1998[92] NR	353	Anakinra 75 mg, 150 mg Placebo	4.1 3.7	33/232 9/121
Cohen, 2002[93] NR	153	Anakinra 1 mg/kg, 2 mg/kg Placebo	7.3 7.8	22/105 2/48
Cohen, 2004[94] NR	506	Anakinra 100 mg Placebo	11.0 10.0	43/253 20/253
Moreland, 1997[95] NR	88	Etanercept 16 m/m sq. Placebo	NR NR	25/44 3/44
Moreland, 1999[96] NR	158	Etanercept 25 mg Placebo	12 12	31/78 4/80
Weinblatt, 1999[97] NR	89	Etanercept 25 mg Placebo	13 13	23/59 1/30
Lan, 2004[98] NR	58	Etanercept 25 mg Placebo	NR NR	19/29 3/29
Kay, 2008[99] NR	70	Golimumab 50 mg Placebo	8.2 5.6	13/35 2/35
Keystone, 2009[100] GO-FORWARD	222	Golimumab 50 mg Placebo	4.5 6.5	31/89 13/133
Maini, 1999[101] ATTRACT	428	Infliximab 3 mg/kg, 10 mg/kg Placebo	8.3 8.9	94/340 4/88
Kavanaugh, 2000[102] NR	21	Infliximab 5 mg/kg, 10 mg/kg Placebo	6.6 4.9	3/14 1/7
Abe, 2006[103] NR	147	Infliximab 3 mg/kg, 10 mg/kg Placebo	8.1 7.5	33/100 4/47
Westhovens, 2006[104] START	1,084	Infliximab 3 mg/kg, 10 mg/kg Placebo	7.1 8.4	229/721 33/363
Zhang, 2006[105] NR	173	Infliximab 3 mg/kg Placebo	7.1 8.0	38/87 22/86
Edwards, 2004[106] NR	80	Rituximab 2x1,000 mg Placebo	12 11	17/40 5/40
Emery, 2010[107] SERENE	275	Rituximab 2x500 mg, 2x1,000 mg Placebo	6.9 7.5	88/340 16/172
Maini, 2006[108] CHARISMA	148	Tocilizumab 4 mg/kg, 8 mg/kg Placebo	0.79 0.94	45/99 14/49

Table B-3. Summary of studies included in analyses of ACR50 response for biologic DMARDs (continued)

Author, Year Study Name	N	Comparison and Dose	Disease Duration (yrs)	Response[a]
Genovese, 2008[109] TOWARD	1,220	Tocilizumab 8 mg/kg Placebo	9.8 9.8	302/805 37/415
Smolen, 2008[110] OPTION	623	Tocilizumab 4 mg/kg, 8 mg/kg Placebo	7.5 7.8	157/419 22/204
Kremer, 2011[111] LITHE	1,196	Tocilizumab 4 mg/kg, 8 mg/kg Placebo	9.4 9.0	228/802 38/394

Note: studies are listed alphabetically by drug and chronologically within each set of drugs

[a] Response is presented as the number of responders/total number in the group.

Abbreviations: kg = kilogram; mg = milligram; NR = not reported; yrs = years

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Appendix C: Evidence Networks

Figure C-1. Response for second-generation antidepressants: Full network

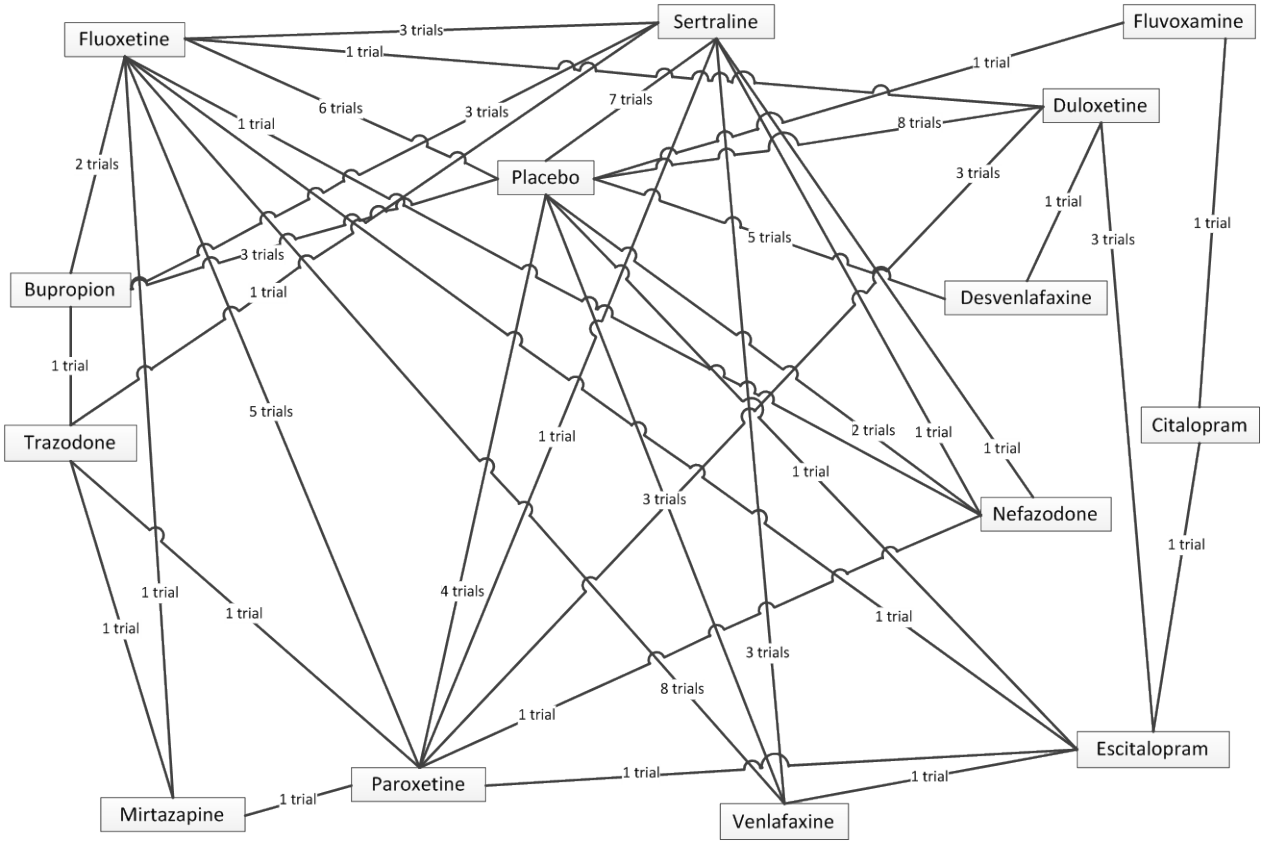


Figure C-2. Response for second-generation antidepressants: Star sub-network

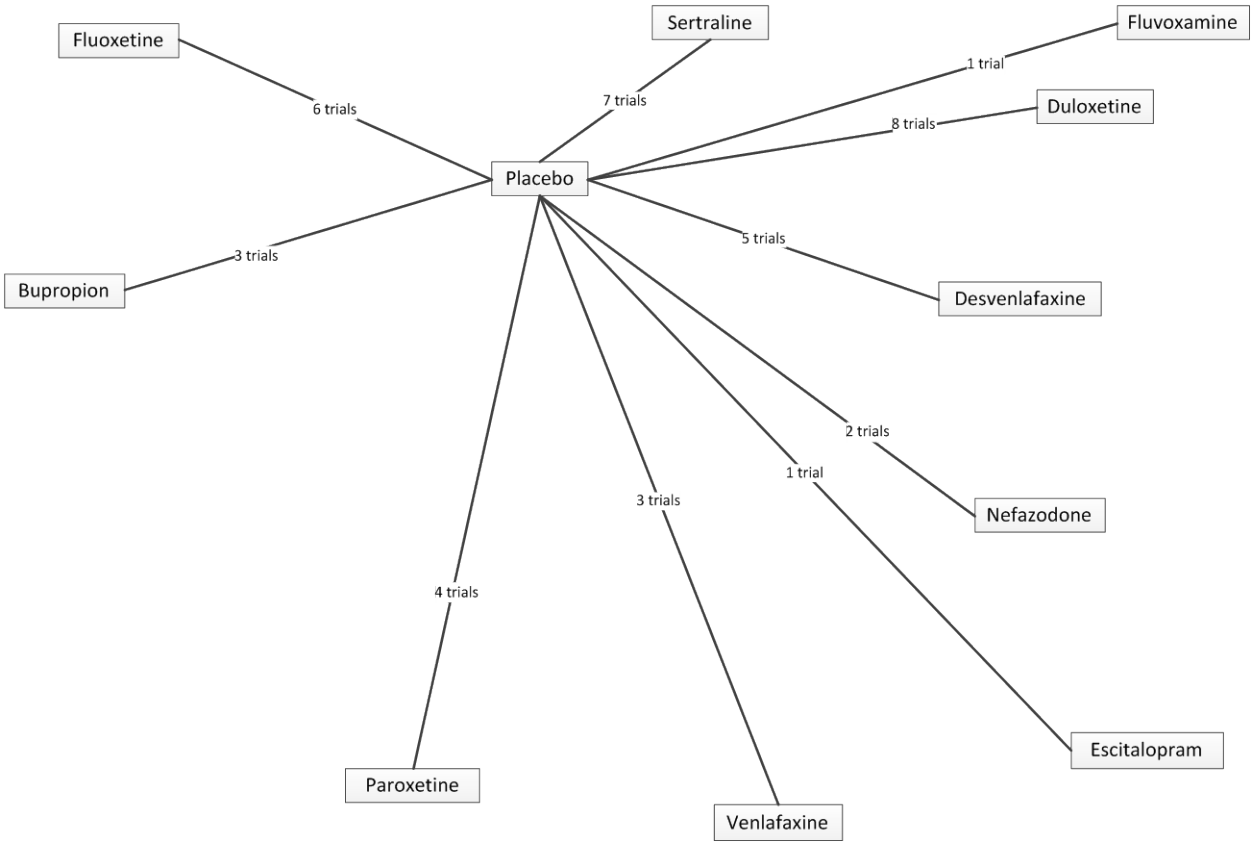


Figure C-3. Response for second-generation antidepressants: Loop sub-network

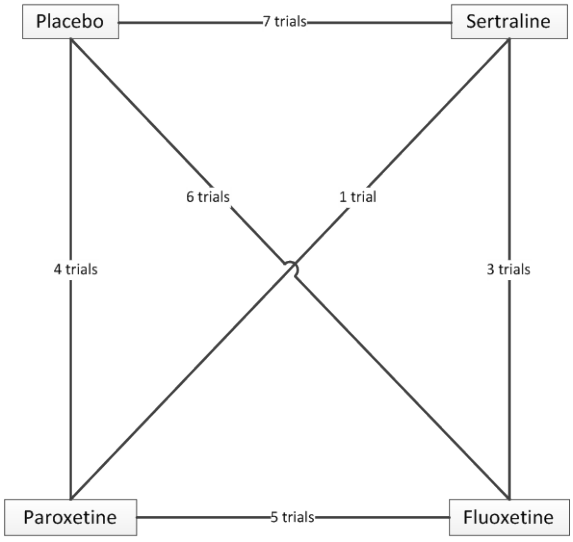


Figure C-4. Response for second-generation antidepressants: One closed loop sub-network

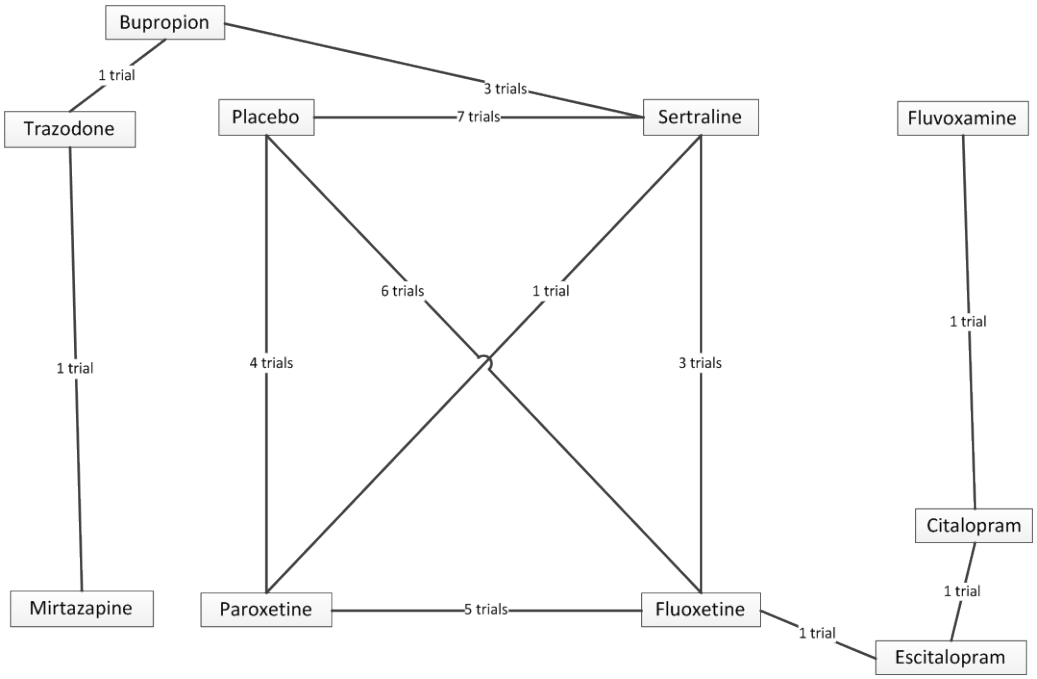


Figure C-5. Response for second-generation antidepressants: Ladder sub-network

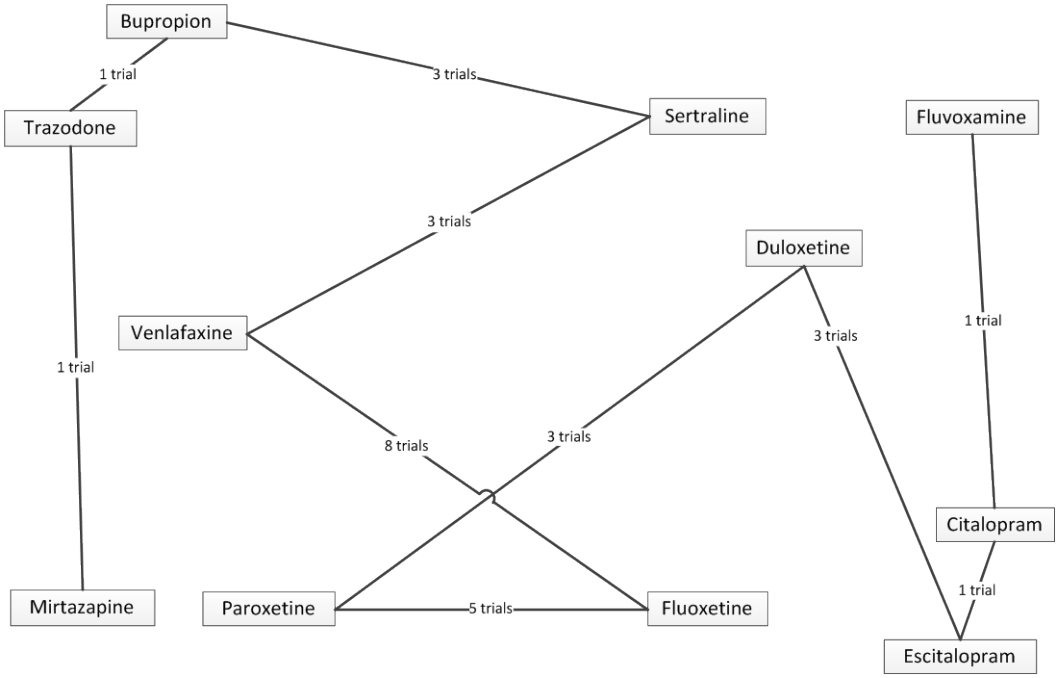


Figure C-6. Response for second-generation antidepressants: Full network, including studies in older adults (meta-regression for Key Question 2)

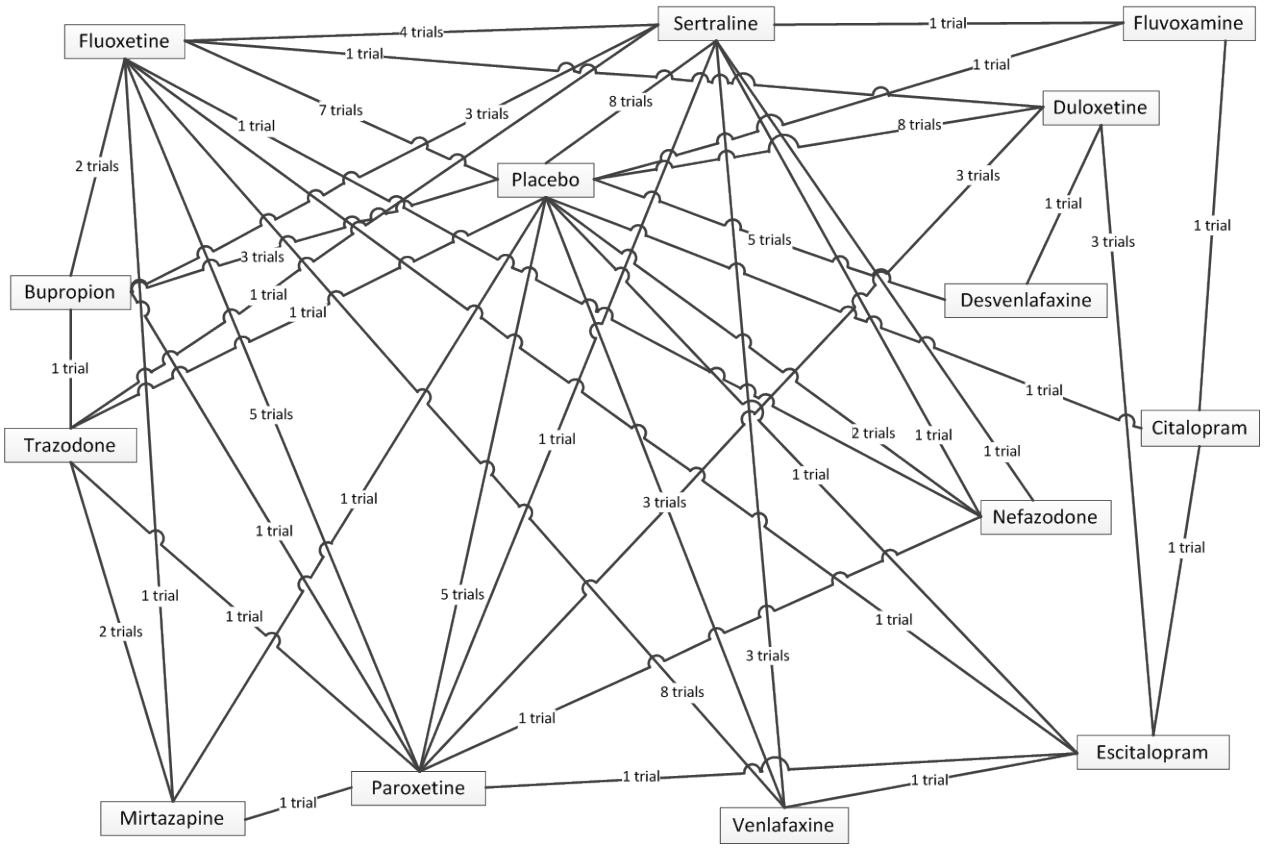


Figure C-7. Mean change in HAM-D for second-generation antidepressants: Full network

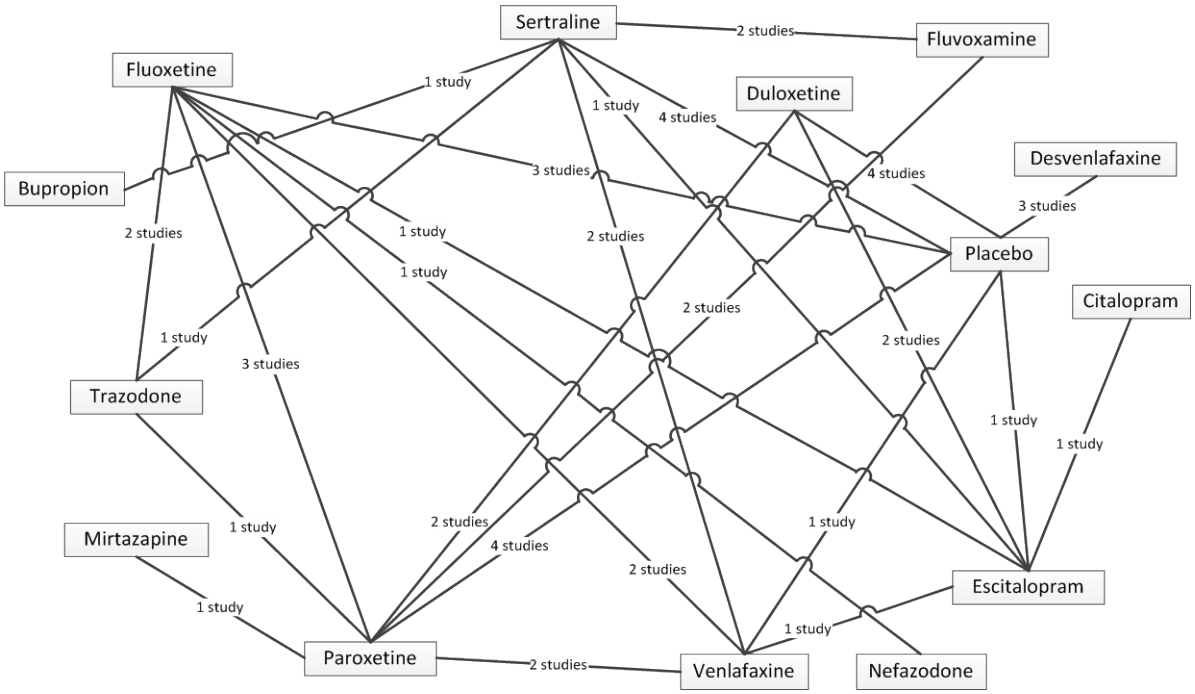


Figure C-8. Mean change in HAM-D for second-generation antidepressants: Star sub-network

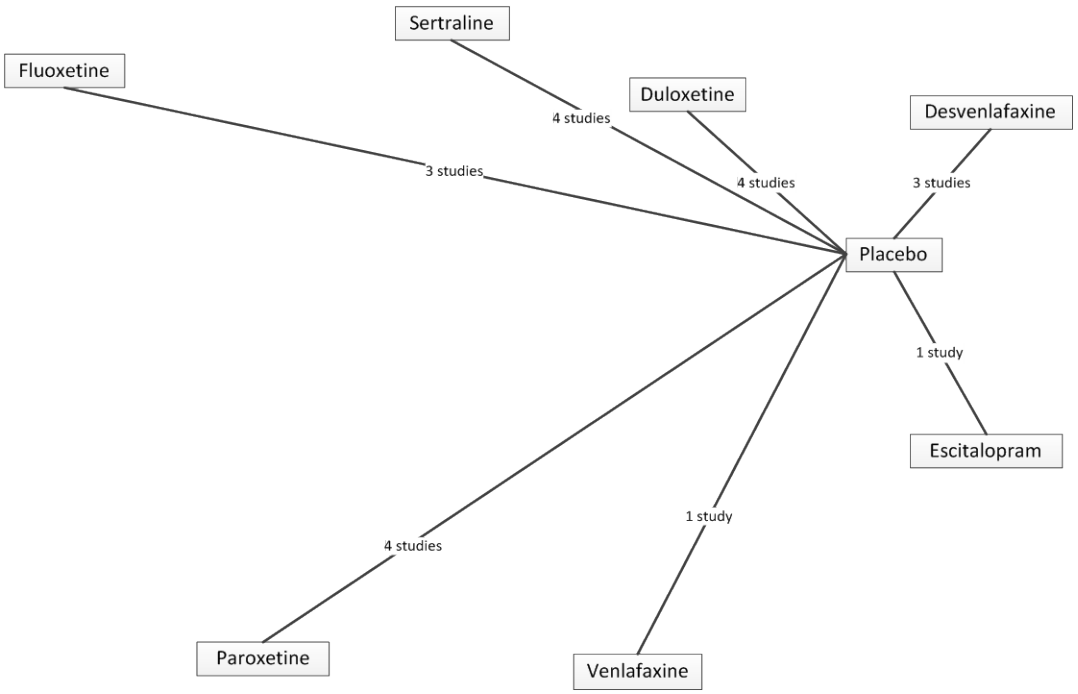


Figure C-9. Mean change in HAM-D for second-generation antidepressants: Loop sub-network

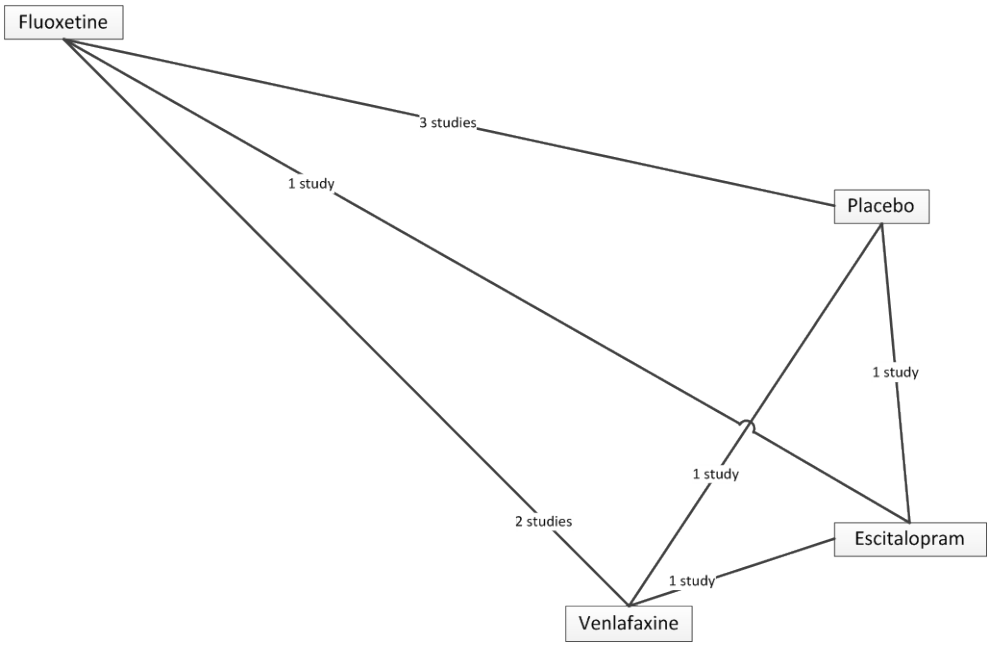


Figure C-10. Mean change in HAM-D for second-generation antidepressants: One closed loop sub-network

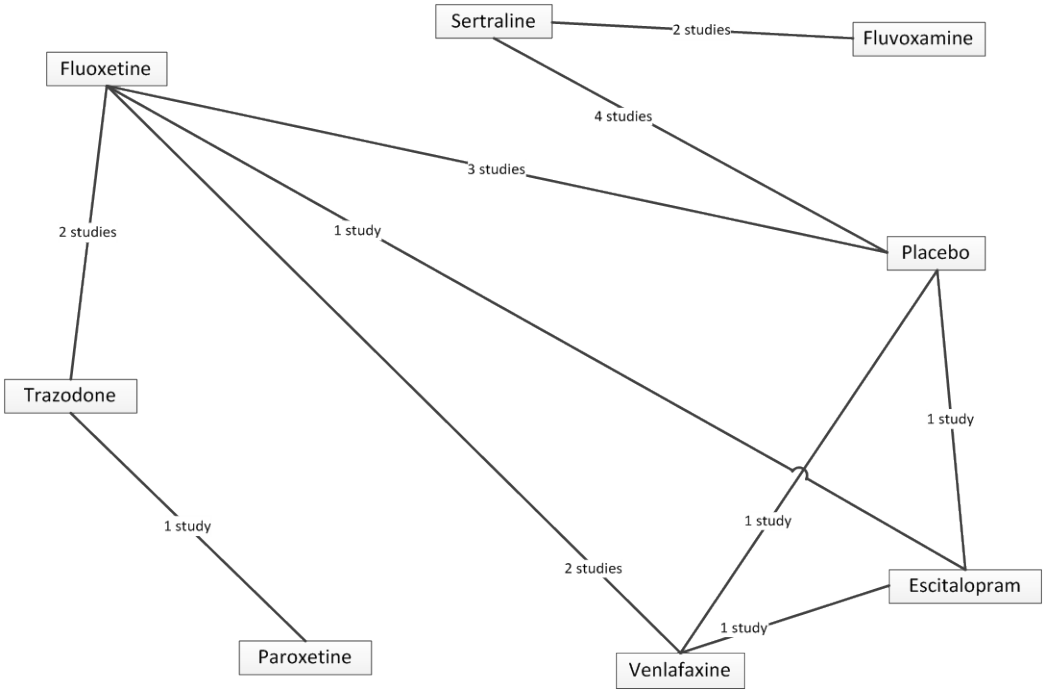


Figure C-11. Mean change in HAM-D for second-generation Antidepressants: Ladder sub-network

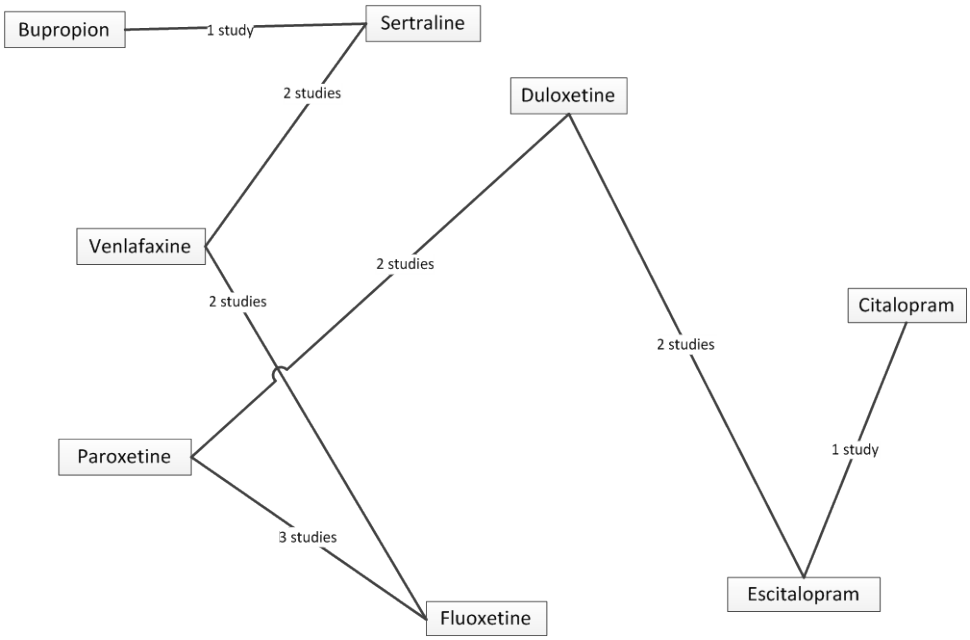


Figure C-12. ACR50 response for biologic DMARDs: Full network

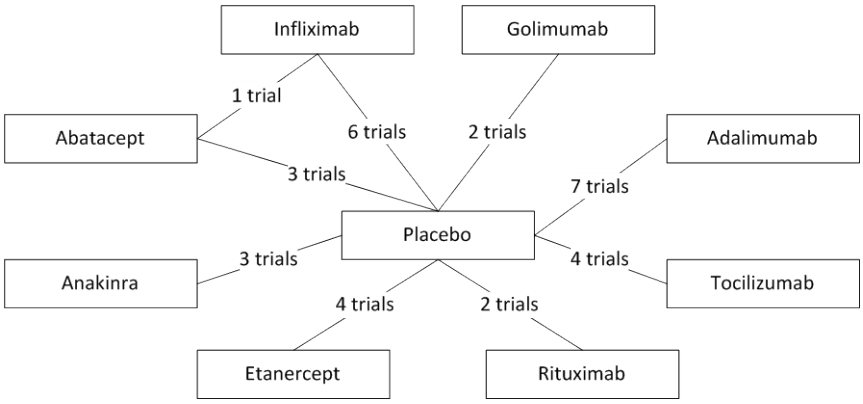


Figure C-13. ACR50 response for biologic DMARDs: Star sub-network

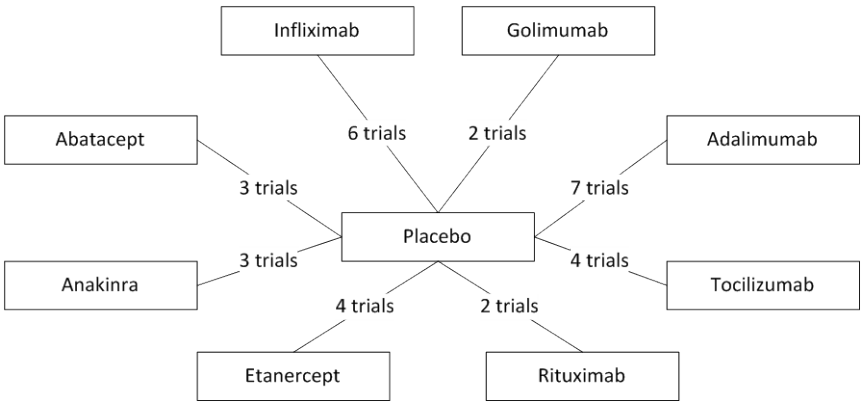


Figure C-14. ACR50 response for biologic DMARDs: Loop sub-network

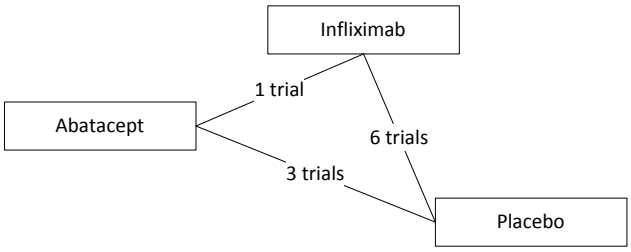


Figure C-15. ACR50 response for biologic DMARDs: One closed loop sub-network using Adalimumab

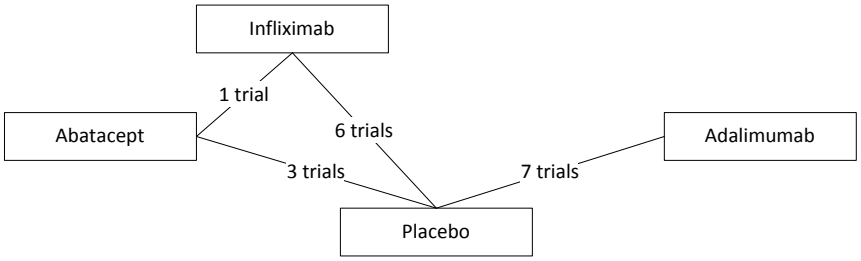


Figure C-16. ACR50 response for biologic DMARDs: One closed loop sub-network using Etanercept

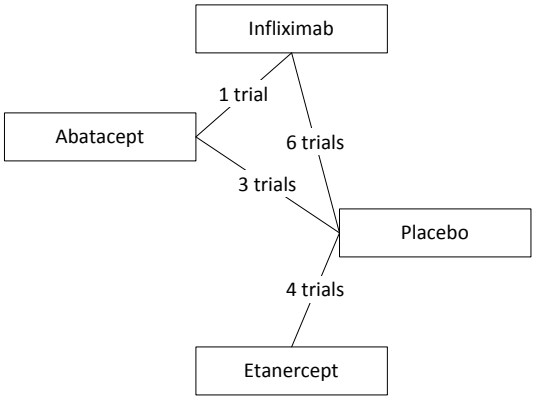


Figure C-17. ACR50 response for biologic DMARDs: Ladder sub-network using Adalimumab

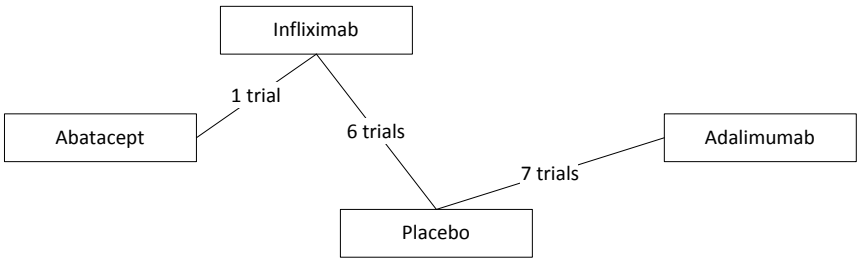


Figure C-18. ACR50 response for biologic DMARDs: Ladder sub-network using Etanercept

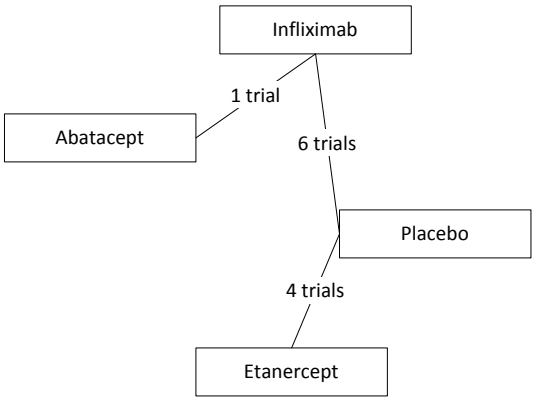
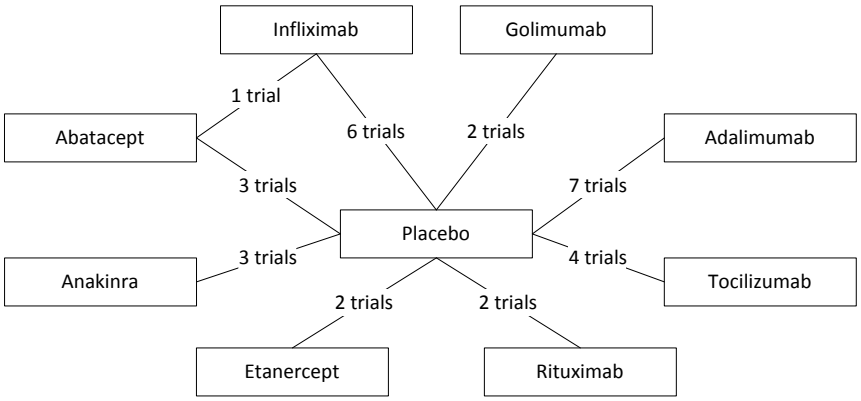


Figure C-19. ACR50 response for biologic DMARDs: Full network excluding studies that did not report disease duration (meta-regression for Key Question 2)



Appendix D: Results of Analyses

Table D-1. Comparison of response for second-generation antidepressants (full network), by method of analysis: Odds ratios (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Logistic Regression
BUP vs. CIT	0.58 (0.29 to 1.39)	NA	NA	0.81 (0.48 to 1.35)
BUP vs. DES	0.88 (0.59 to 1.40)	0.78 (0.30 to 2.01)	0.77 (0.40 to 1.50)	0.93 (0.70 to 1.23)
BUP vs. DUL	0.99 (0.69 to 1.46)	0.85 (0.50 to 1.45)	0.87 (0.56 to 1.36)	1.00 (0.78 to 1.29)
BUP vs. ESC	0.73 (0.50 to 1.12)	1.04 (0.21 to 5.11)	1.04 (0.59 to 1.85)	0.76 (0.58 to 1.00)
BUP vs. FLUO	1.07 (0.78 to 1.52)	0.98 (0.56 to 1.71)	0.98 (0.62 to 1.56)	1.05 (0.83 to 1.32)
BUP vs. FLUV	0.62 (0.26 to 1.79)	0.59 (0.02 to 15.8)	0.58 (0.14 to 2.46)	1.03 (0.54 to 1.94)
BUP vs. MIR	0.75 (0.45 to 1.35)	0.71 (0.0 to 113.5)	IS	0.76 (0.51 to 1.12)
BUP vs. NEF	0.90 (0.55 to 1.58)	0.65 (0.19 to 2.18)	0.82 (0.35 to 1.91)	0.94 (0.64 to 1.39)
BUP vs. PAR	0.92 (0.64 to 1.38)	0.94 (0.45 to 1.99)	0.71 (0.38 to 1.33)	0.92 (0.70 to 1.19)
BUP vs. SER	0.90 (0.67 to 1.26)	0.80 (0.49 to 1.30)	0.80 (0.52 to 1.24)	0.91 (0.73 to 1.14)
BUP vs. TRA	1.09 (0.67 to 1.93)	0.54 (0.06 to 4.55)	IS	1.01 (0.69 to 1.50)
BUP vs. VEN	0.83 (0.58 to 1.22)	0.74 (0.33 to 1.62)	0.73 (0.42 to 1.28)	0.83 (0.64 to 1.07)
CIT vs. DES	1.32 (0.66 to 3.14)	NA	NA	1.15 (0.69 to 1.91)
CIT vs. DUL	1.48 (0.76 to 3.34)	NA	NA	1.24 (0.77 to 2.01)
CIT vs. ESC	1.11 (0.59 to 2.38)	NA	NA	0.94 (0.59 to 1.49)
CIT vs. FLUO	1.60 (0.82 to 3.63)	IS	IS	1.30 (0.80 to 2.11)
CIT vs. FLUV	1.03 (0.53 to 2.23)	NA	NA	1.27 (0.75 to 2.14)
CIT vs. MIR	1.11 (0.51 to 2.93)	NA	NA	0.94 (0.53 to 1.67)
CIT vs. NEF	1.34 (0.63 to 3.46)	NA	NA	1.17 (0.66 to 2.07)
CIT vs. PAR	1.38 (0.70 to 3.15)	NA	NA	1.13 (0.69 to 1.85)
CIT vs. SER	1.34 (0.69 to 3.08)	NA	NA	1.13 (0.69 to 1.84)
CIT vs. TRA	1.61 (0.74 to 4.35)	NA	NA	1.26 (0.69 to 2.27)
CIT vs. VEN	1.23 (0.62 to 2.84)	NA	NA	1.03 (0.63 to 1.69)
DES vs. DUL	1.10 (0.78 to 1.59)	1.10 (0.59 to 2.03)	1.14 (0.63 to 2.05)	1.08 (0.87 to 1.34)
DES vs. ESC	0.81 (0.55 to 1.24)	1.35 (0.22 to 8.18)	1.35 (0.67 to 2.71)	0.82 (0.63 to 1.06)
DES vs. FLUO	1.18 (0.84 to 1.73)	1.27 (0.64 to 2.54)	1.27 (0.69 to 2.34)	1.13 (0.89 to 1.42)
DES vs. FLUV	0.68 (0.29 to 1.99)	0.76 (0.06 to 10.1)	0.76 (0.17 to 3.37)	1.10 (0.59 to 2.08)
DES vs. MIR	0.82 (0.48 to 1.54)	NA	NA	0.82 (0.55 to 1.20)
DES vs. NEF	1.00 (0.61 to 1.75)	0.83 (0.21 to 3.27)	1.07 (0.42 to 2.71)	1.02 (0.70 to 1.48)
DES vs. PAR	1.02 (0.70 to 1.53)	1.23 (0.51 to 2.96)	0.93 (0.44 to 1.94)	0.99 (0.77 to 1.27)
DES vs. SER	1.00 (0.71 to 1.46)	1.05 (0.57 to 1.93)	1.04 (0.58 to 1.87)	0.98 (0.78 to 1.24)
DES vs. TRA	1.20 (0.69 to 2.26)	NA	NA	1.09 (0.72 to 1.65)
DES vs. VEN	0.91 (0.63 to 1.38)	0.95 (0.36 to 2.54)	0.96 (0.48 to 1.89)	0.89 (0.69 to 1.15)
DUL vs. ESC	0.74 (0.56 to 0.99)	1.23 (0.54 to 2.82)	1.19 (0.73 to 1.94)	0.76 (0.63 to 0.91)
DUL vs. FLUO	1.07 (0.82 to 1.43)	1.12 (0.75 to 1.68)	1.12 (0.79 to 1.59)	1.05 (0.87 to 1.26)
DUL vs. FLUV	0.62 (0.27 to 1.72)	0.69 (0.11 to 4.35)	0.67 (0.16 to 2.72)	1.02 (0.55 to 1.89)
DUL vs. MIR	0.74 (0.45 to 1.30)	0.74 (0.20 to 2.69)	IS	0.76 (0.53 to 1.08)
DUL vs. NEF	0.90 (0.58 to 1.51)	0.77 (0.33 to 1.79)	0.94 (0.43 to 2.07)	0.94 (0.66 to 1.35)
DUL vs. PAR	0.93 (0.70 to 1.24)	1.08 (0.66 to 1.77)	0.82 (0.47 to 1.41)	0.92 (0.76 to 1.10)
DUL vs. SER	0.90 (0.68 to 1.22)	0.92 (0.64 to 1.31)	0.92 (0.67 to 1.25)	0.91 (0.75 to 1.11)
DUL vs. TRA	1.08 (0.65 to 1.93)	1.25 (0.07 to 21.4)	IS	1.01 (0.69 to 1.49)
DUL vs. VEN	0.82 (0.61 to 1.15)	0.92 (0.54 to 1.59)	0.84 (0.53 to 1.34)	0.83 (0.67 to 1.03)
ESC vs. FLUO	1.44 (1.06 to 1.99)	0.94 (0.42 to 2.11)	0.94 (0.57 to 1.57)	1.38 (1.12 to 1.70)
ESC vs. FLUV	0.83 (0.37 to 2.26)	IS	0.56 (0.13 to 2.40)	1.35 (0.74 to 2.47)
ESC vs. MIR	1.00 (0.60 to 1.80)	IS	IS	1.00 (0.69 to 1.44)
ESC vs. NEF	1.21 (0.75 to 2.07)	IS	0.79 (0.33 to 1.88)	1.24 (0.86 to 1.80)
ESC vs. PAR	1.24 (0.90 to 1.74)	0.69 (0.15 to 3.13)	1.15 (0.71 to 1.88)	1.21 (0.98 to 149)
ESC vs. SER	1.21 (0.88 to 1.70)	0.77 (0.39 to 1.52)	0.77 (0.47 to 1.24)	1.20 (0.97 to 1.49)
ESC vs. TRA	1.45 (0.85 to 2.68)	IS	IS	1.33 (0.90 to 1.99)
ESC vs. VEN	1.11 (0.80 to 1.58)	0.71 (0.14 to 3.46)	0.71 (0.39 to 1.28)	1.09 (0.87 to 1.37)

Table D-1. Comparison of response for second-generation antidepressants (full network), by method of analysis: Odds ratios (95% credible interval or 95% confidence interval) (continued)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Logistic Regression
FLUO vs. FLUV	0.57 (0.25 to 1.60)	0.60 (0.09 to 4.02)	0.60 (0.15 to 2.44)	0.98 (0.53 to 1.81)
FLUO vs. MIR	0.69 (0.43 to 1.17)	0.77 (0.34 to 1.71)	IS	0.72 (0.51 to 1.02)
FLUO vs. NEF	0.84 (0.55 to 1.36)	0.66 (0.28 to 1.56)	0.84 (0.38 to 1.86)	0.90 (0.64 to 1.21)
FLUO vs. PAR	0.86 (0.66 to 1.13)	0.73 (0.39 to 1.37)	0.73 (0.41 to 1.28)	0.88 (0.72 to 1.06)
FLUO vs. SER	0.84 (0.66 to 1.06)	0.82 (0.54 to 1.23)	0.82 (0.58 to 1.15)	0.87 (0.74 to 1.03)
FLUO vs. TRA	1.00 (0.62 to 1.75)	1.30 (0.22 to 7.66)	IS	0.97 (0.66 to 1.41)
FLUO vs. VEN	0.77 (0.61 to 0.97)	0.75 (0.42 to 1.35)	0.75 (0.46 to 1.22)	0.79 (0.67 to 0.94)
FLUV vs. MIR	0.97 (0.40 to 3.17)	NA	NA	0.74 (0.37 to 1.47)
FLUV vs. NEF	1.18 (0.50 to 3.72)	IS	1.40 (0.29 to 6.80)	0.92 (0.46 to 183)
FLUV vs. PAR	1.21 (0.54 to 3.5)	1.61 (0.13 to 20.0)	IS	0.89 (0.48 to 1.66)
FLUV vs. SER	1.18 (0.52 to 3.38)	1.37 (0.23 to 8.11)	IS	0.89 (0.48 to 1.65)
FLUV vs. TRA	1.42 (0.57 to 4.70)	NA	NA	0.99 (0.49 to 1.99)
FLUV vs. VEN	1.08 (0.48 to 3.12)	1.26 (0.05 to 35.0)	1.26 (0.30 to 5.32)	0.81 (0.43 to 1.51)
MIR vs. NEF	1.14 (0.63 to 2.29)	IS	IS	1.25 (0.78 to 1.99)
MIR vs. PAR	1.18 (0.74 to 1.97)	1.25 (0.43 to 3.64)	IS	1.21 (0.86 to 1.70)
MIR vs. SER	1.14 (0.71 to 1.98)	0.89 (0.17 to 4.61)	IS	1.20 (0.84 to 1.72)
MIR vs. TRA	1.40 (0.84 to 2.54)	IS	IS	1.34 (0.89 to 2.01)
MIR vs. VEN	1.04 (0.64 to 1.85)	1.03 (0.33 to 3.20)	IS	1.10 (0.76 to 1.58)
NEF vs. PAR	0.98 (0.62 to 1.63)	1.46 (0.47 to 4.51)	0.87 (0.35 to 2.15)	0.97 (0.68 to 1.40)
NEF vs. SER	0.96 (0.63 to 1.54)	1.23 (0.56 to 2.67)	0.98 (0.44 to 2.14)	0.97 (0.69 to 1.36)
NEF vs. TRA	1.15 (0.63 to 2.34)	IS	IS	1.07 (0.66 to 1.74)
NEF vs. VEN	0.87 (0.55 to 1.45)	0.84 (0.29 to 2.41)	0.90 (0.38 to 2.11)	0.88 (0.61 to 1.26)
PAR vs. SER	0.96 (0.72 to 1.31)	1.14 (0.71 to 1.84)	1.12 (0.65 to 1.93)	0.99 (0.81 to 1.22)
PAR vs. TRA	1.16 (0.71 to 2.04)	IS	IS	1.11 (0.76 to 1.62)
PAR vs. VEN	0.88 (0.65 to 1.23)	0.78 (0.36 to 1.70)	1.03 (0.54 to 1.96)	0.91 (0.72 to 1.14)
SER vs. TRA	1.19 (0.74 to 2.06)	1.03 (0.13 to 8.31)	IS	1.11 (0.76 to 1.62)
SER vs. VEN	0.91 (0.70 to 1.21)	0.92 (0.55 to 1.54)	0.92 (0.58 to 1.45)	0.91 (0.75 to 1.11)
TRA vs. VEN	0.71 (0.43 to 1.30)	1.51 (0.23 to 9.95)	IS	0.82 (0.55 to 1.21)

Abbreviations: BUP = bupropion; CIT = citalopram; DES = desvenlafaxine; DUL = duloxetine; ESC = escitalopram; FLUO = fluoxetine; FLUV = fluvoxamine; IS = insufficient studies; MIR = mirtazapine; NA = not applicable; NEF = nefazodone; PAR = paroxetine; SER = sertraline; TRA = trazodone; VEN = velafaxine

Table D-2. Comparison of mean change in ham-d for second-generation antidepressants (full network), by method of analysis: Weighted mean difference (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method
BUP vs. CIT	0.52 (-3.50 to 4.55)	NA	NA
BUP vs. DES	1.13 (-2.10 to 4.37)	NA	NA
BUP vs. DUL	0.65 (-2.3 to 3.60)	NA	NA
BUP vs. ESC	1.42 (-1.50 to 4.43)	IS	0.00 (-2.79 to 2.79)
BUP vs. FLUO	0.54 (-2.40 to 3.43)	NA	NA
BUP vs. FLUV	2.24 (-0.96 to 5.47)	IS	0.55 (-2.47 to 3.57)
BUP vs. MIR	2.48 (-1.20 to 6.24)	NA	NA
BUP vs. NEF	-0.25 (-4.40 to 3.79)	NA	NA
BUP vs. PAR	0.55 (-2.30 to 3.48)	NA	NA
BUP vs. SER	0.79 (-1.80 to 3.39)	Direct	Direct
BUP vs. TRA	1.44 (-1.70 to 4.68)	IS	0.60 (-3.01 to 4.21)
BUP vs. VEN	1.62 (-1.30 to 4.52)	IS	-0.74 (-4.21 to 2.73)
CIT vs. DES	0.6 (-2.80 to 3.95)	NA	NA
CIT vs. DUL	0.12 (-2.90 to 3.09)	-0.95 (-32.88 to 30.98)	0.85 (-2.49 to 4.19)
CIT vs. ESC	0.9 (-1.80 to 3.61)	Direct	Direct
CIT vs. FLUO	0.01 (-3.10 to 3.03)	IS	-0.20 (-2.88 to 2.48)
CIT vs. FLUV	1.71 (-1.70 to 5.14)	NA	NA
CIT vs. MIR	1.96 (-1.90 to 5.81)	NA	NA
CIT vs. NEF	-0.78 (-5.10 to 3.38)	NA	NA
CIT vs. PAR	0.03 (-3.00 to 3.07)	NA	NA
CIT vs. SER	0.27 (-2.80 to 3.30)	IS	0.10 (-2.76 to 2.96)
CIT vs. TRA	0.92 (-2.50 to 4.31)	NA	NA
CIT vs. VEN	1.09 (-2.00 to 4.14)	IS	-1.10 (-4.30 to 2.10)
DES vs. DUL	-0.48 (-2.40 to 1.40)	-0.65 (-2.92 to 1.61)	-0.68 (-2.25 to 0.90)
DES vs. ESC	0.29 (-1.70 to 2.32)	-1.23 (-5.06 to 2.61)	-1.23 (-2.97 to 0.51)
DES vs. FLUO	-0.59 (-2.60 to 1.28)	0.72 (-4.27 to 5.71)	-0.27 (-5.19 to 4.64)
DES vs. FLUV	1.11 (-1.30 to 3.55)	NA	NA
DES vs. MIR	1.35 (-1.60 to 4.33)	NA	NA
DES vs. NEF	-1.40 (-4.90 to 2.02)	NA	NA
DES vs. PAR	-0.58 (-2.40 to 1.31)	-0.67 (-3.33 to 2.00)	-0.72 (-2.65 to 1.21)
DES vs. SER	-0.33 (-2.20 to 1.53)	-0.41 (-2.68 to 1.86)	-0.47 (-2.15 to 1.21)
DES vs. TRA	0.32 (-2.10 to 2.71)	NA	NA
DES vs. VEN	0.49 (-1.50 to 2.43)	1.92 (-3.05 to 6.89)	1.92 (-0.34 to 4.18)
DUL vs. ESC	0.77 (-0.49 to 2.10)	-0.55 (-4.68 to 3.58)	-0.55 (-2.34 to 1.24)
DUL vs. FLUO	-0.11 (-1.50 to 1.19)	1.15 (-3.45 to 5.76)	0.41 (-4.53 to 5.34)
DUL vs. FLUV	1.59 (-0.42 to 3.64)	1.27 (-5.47 to 8.00)	1.40 (-0.43 to 3.22)
DUL vs. MIR	1.83 (-0.77 to 4.50)	2.23 (-8.66 to 13.12)	-2.23 (-3.91 to -0.55)
DUL vs. NEF	-0.90 (-4.10 to 2.21)	NA	NA
DUL vs. PAR	-0.10 (-1.30 to 1.17)	-0.04 (-2.59 to 2.51)	-0.04 (-2.02 to 1.94)
DUL vs. SER	0.15 (-1.30 to 1.53)	0.20 (-2.00 to 2.39)	0.21 (-1.53 to 1.95)
DUL vs. TRA	0.80 (-1.20 to 2.79)	-0.10 (-13.31 to 13.11)	-0.70 (2.74 to 1.34)
DUL vs. VEN	0.97 (-0.48 to 2.41)	2.60 (-2.15 to 7.35)	2.60 (0.29 to 4.91)
ESC vs. FLUO	-0.88 (-2.40 to 0.48)	0.91 (-49.15 to 50.98)	0.96 (-4.03 to 5.95)
ESC vs. FLUV	0.82 (-1.30 to 2.93)	IS	0.55 (-2.59 to 3.69)
ESC vs. MIR	1.06 (-1.70 to 3.77)	NA	NA
ESC vs. NEF	-1.70 (-5.00 to 1.47)	IS	-1.90 (-4.77 to 0.97)
ESC vs. PAR	-0.87 (-2.30 to 0.54)	0.26 (-5.51 to 6.03)	0.51 (-1.60 to 2.62)
ESC vs. SER	-0.63 (-2.10 to 0.78)	0.77 (-3.44 to 4.97)	0.76 (-1.13 to 2.65)
ESC vs. TRA	0.02 (-2.00 to 2.05)	0.78 (-17.89 to 19.45)	-2.99 (-5.85 to -0.13)
ESC vs. VEN	0.20 (-1.30 to 1.63)	IS	3.15 (0.73 to 5.57)
FLUO vs. FLUV	1.70 (-0.22 to 3.75)	IS	IS
FLUO vs. MIR	1.94 (-0.53 to 4.61)	1.72 (-4.68 to 8.11)	-2.12 (-4.30 to 0.06)

Table D-2. Comparison of mean change in ham-d for second-generation antidepressants (full network), by method of analysis: Weighted mean difference (95% credible interval or 95% confidence interval) (continued)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method
FLUO vs. NEF	-0.79 (-3.70 to 2.07)	Direct	Direct
FLUO vs. PAR	0.01 (-1.00 to 1.22)	-1.08 (-7.51 to 5.36)	-0.45 (-5.51 to 4.61)
FLUO vs. SER	0.26 (-1.00 to 1.65)	-0.92 (-5.82 to 3.97)	-0.20 (-5.17 to 4.77)
FLUO vs. TRA	0.90 (-0.81 to 2.72)	NA	NA
FLUO vs. VEN	1.08 (-0.14 to 2.41)	2.24 (-48.69 to 53.16)	2.19 (-3.00 to 7.39)
FLUV vs. MIR	0.24 (-2.70 to 3.15)	NA	NA
FLUV vs. NEF	-2.50 (-6.10 to 0.96)	NA	NA
FLUV vs. PAR	-1.70 (-3.40 to 0.06)	Direct	Direct
FLUV vs. SER	-1.40 (-3.30 to 0.40)	Direct	Direct
FLUV vs. TRA	-0.80 (-3.20 to 1.59)	IS	-2.10 (-4.56 to 0.37)
FLUV vs. VEN	-0.62 (-2.60 to 1.35)	3.53 (-20.92 to 27.98)	-1.21 (-3.33 to 0.92)
MIR vs. NEF	-2.70 (-6.70 to 1.02)	NA	NA
MIR vs. PAR	-1.90 (-4.20 to 0.39)	Direct	Direct
MIR vs. SER	-1.70 (-4.40 to 0.92)	NA	NA
MIR vs. TRA	-1.00 (-3.90 to 1.84)	IS	1.53 (-0.83 to 3.89)
MIR vs. VEN	-0.86 (-3.50 to 1.71)	IS	2.42 (0.42 to 4.42)
NEF vs. PAR	0.80 (-2.20 to 3.96)	2.01 (-20.25 to 24.27)	0.61 (-2.14 to 3.36)
NEF vs. SER	1.05 (-2.10 to 4.24)	NA	NA
NEF vs. TRA	1.70 (-1.60 to 5.15)	2.68 (-17.72 to 23.08)	-1.09 (-4.23 to 2.05)
NEF vs. VEN	1.87 (-1.20 to 5.04)	IS	2.50 (-0.64 to 5.64)
PAR vs. SER	0.24 (-1.10 to 1.47)	0.24 (-2.46 to 2.93)	0.25 (-1.82 to 2.32)
PAR vs. TRA	0.89 (-0.84 to 2.61)	0.67 (-6.88 to 8.22)	-1.70 (-4.45 to 1.05)
PAR vs. VEN	1.07 (-0.17 to 2.24)	2.66 (-4.47 to 9.79)	2.64 (0.08 to 5.20)
SER vs. TRA	0.65 (-1.20 to 2.55)	Direct	Direct
SER vs. VEN	0.82 (-0.44 to 2.09)	2.38 (-2.49 to 7.26)	2.39 (0.01 to 4.77)
TRA vs. VEN	0.18 (-1.80 to 2.08)	0.79 (-5.72 to 7.29)	-0.85 (-4.00 to 2.31)

Abbreviations: BUP = bupropion; CIT = citalopram; DES = desvenlafaxine; DUL = duloxetine; ESC = escitalopram; FLUO = fluoxetine; FLUV = fluvoxamine; IS = insufficient studies; MIR = mirtazapine; NA = not applicable; NEF = nefazodone; PAR = paroxetine; SER = sertraline; TRA = trazodone; VEN = velafaxine

Table D-3. Comparison of ACR50 response for biologic DMARDs (full network), by method of analysis: Odds ratios (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Logistic Regression
ABA vs. ADA	0.65 (0.37 to 1.20)	0.67 (0.34 to 1.33)	0.64 (0.38 to 1.08)	0.83 (0.60 to 1.14)
ABA vs. ANA	1.26 (0.63 to 2.78)	1.32 (0.63 to 2.79)	1.32 (0.78 to 2.24)	1.82 (1.20 to 2.76)
ABA vs. ETA	0.19 (0.08 to 0.50)	0.21 (0.08 to 0.57)	0.21 (0.10 to 0.45)	0.41 (0.26 to 0.66)
ABA vs. GOL	0.54 (0.23 to 1.49)	0.59 (0.18 to 1.89)	0.57 (0.28 to 1.17)	0.76 (0.43 to 1.34)
ABA vs. INF	0.94 (0.58 to 1.65)	0.92 (0.49 to 2.29)	0.80 (0.47 to 1.38)	1.01 (0.75 to 1.35)
ABA vs. RIT	0.84 (0.39 to 2.08)	0.88 (0.34 to 1.53)	0.89 (0.49 to 1.60)	1.03 (0.64 to 1.67)
ABA vs. TOC	0.80 (0.47 to 1.57)	0.76 (0.38 to 2.44)	0.77 (0.48 to 1.25)	0.82 (0.60 to 1.13)
ADA vs. ANA	1.88 (1.01 to 3.98)	1.95 (0.82 to 4.61)	2.08 (1.12 to 3.83)	2.20 (1.49 to 3.26)
ADA vs. ETA	0.29 (0.13 to 0.73)	0.32 (0.12 to 0.84)	0.33 (0.15 to 0.75)	0.50 (0.32 to 0.78)
ADA vs. GOL	0.80 (0.36 to 2.14)	0.87 (0.27 to 2.82)	0.90 (0.41 to 1.97)	0.93 (0.53 to 1.59)
ADA vs. INF	1.39 (0.86 to 2.53)	1.42 (0.72 to 2.81)	1.26 (0.67 to 2.35)	1.22 (0.91 to 1.63)
ADA vs. RIT	1.25 (0.61 to 3.04)	1.30 (0.47 to 3.60)	1.39 (0.71 to 2.72)	1.25 (0.79 to 1.98)
ADA vs. TOC	1.19 (0.74 to 2.27)	1.20 (0.60 to 2.44)	1.21 (0.68 to 2.16)	1.00 (0.75 to 1.32)
ANA vs. ETA	0.14 (0.06 to 0.41)	0.16 (0.06 to 0.47)	0.16 (0.07 to 0.36)	0.23 (0.13 to 0.38)
ANA vs. GOL	0.39 (0.16 to 1.18)	0.45 (0.12 to 1.60)	0.43 (0.20 to 0.95)	0.42 (0.23 to 0.77)
ANA vs. INF	0.68 (0.36 to 1.47)	0.71 (0.31 to 1.63)	0.61 (0.32 to 1.13)	0.55 (0.37 to 0.82)
ANA vs. RIT	0.61 (0.27 to 1.70)	0.67 (0.22 to 1.97)	0.67 (0.34 to 1.31)	0.57 (0.33 to 0.96)
ANA vs. TOC	0.58 (0.32 to 1.30)	1.00 (0.45 to 2.21)	0.59 (0.33 to 1.04)	0.45 (0.31 to 0.67)
ETA vs. GOL	2.39 (0.92 to 8.64)	2.77 (0.72 to 10.62)	2.70 (1.05 to 6.96)	1.85 (0.98 to 3.51)
ETA vs. INF	4.17 (2.00 to 11.20)	4.34 (1.62 to 11.60)	3.78 (1.66 to 8.58)	2.45 (1.56 to 3.82)
ETA vs. RIT	3.76 (1.51 to 12.70)	4.15 (1.24 to 13.88)	4.18 (1.78 to 9.82)	2.50 (1.41 to 4.43)
ETA vs. TOC	3.59 (1.73 to 9.80)	3.63 (1.32 to 9.98)	3.65 (1.67 to 7.98)	2.00 (1.28 to 3.12)
GOL vs. INF	1.47 (0.68 to 4.05)	1.63 (0.51 to 5.20)	1.40 (0.63 to 3.08)	1.32 (0.77 to 2.28)
GOL vs. RIT	1.33 (0.53 to 4.54)	1.50 (0.24 to 4.93)	1.55 (0.68 to 3.53)	1.35 (0.70 to 2.60)
GOL vs. TOC	1.27 (0.59 to 3.57)	1.37 (0.38 to 1.97)	1.35 (0.64 to 2.86)	1.08 (0.63 to 1.86)
INF vs. RIT	0.87 (0.41 to 2.07)	0.93 (0.34 to 2.51)	1.11 (0.56 to 2.19)	1.02 (0.64 to 1.62)
INF vs. TOC	0.83 (0.51 to 1.52)	0.72 (0.38 to 1.38)	0.97 (0.54 to 1.74)	0.82 (0.62 to 1.08)
RIT vs. TOC	0.84 (0.42 to 2.12)	0.84 (0.26 to 2.77)	0.87 (0.46 to 1.65)	0.80 (0.51 to 1.26)

Abbreviations: ABA = abatacept; ADA = adalimumab; ANA = anakinra; ETA = etanercept; GOL = golimumab; INF = infliximab; RIT = rituximab; TOC = tocilizumab

Table D-4. Comparison of response for second-generation antidepressants for placebo star sub-network, by method of analysis: Odds ratios (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Logistic Regression
BUP vs. CIT	NA	NA	NA	NA
BUP vs. DES	0.73 (0.43 to 1.35)	0.78 (0.30 to 2.01)	0.77 (0.40 to 1.50)	0.87 (0.64 to 1.18)
BUP vs. DUL	0.84 (0.51 to 1.49)	0.85 (0.50 to 1.45)	0.87 (0.56 to 1.36)	0.94 (0.70 to 1.26)
BUP vs. ESC	0.94 (0.43 to 2.56)	1.04 (0.21 to 5.11)	1.04 (0.59 to 1.85)	1.08 (0.72 to 1.63)
BUP vs. FLUO	0.94 (0.56 to 1.72)	0.98 (0.56 to 1.71)	0.98 (0.62 to 1.56)	0.99 (0.73 to 1.33)
BUP vs. FLUV	0.39 (0.11 to 2.63)	0.59 (0.02 to 15.83)	0.58 (0.14 to 2.46)	0.82 (0.26 to 2.54)
BUP vs. MIR	NA	NA	NA	NA
BUP vs. NEF	0.58 (0.27 to 1.49)	0.65 (0.19 to 2.18)	0.82 (0.35 to 1.91)	1.00 (0.51 to 1.98)
BUP vs. PAR	0.67 (0.37 to 1.39)	0.94 (0.45 to 1.99)	0.71 (0.38 to 1.33)	0.84 (0.57 to 1.23)
BUP vs. SER	0.78 (0.47 to 1.41)	0.80 (0.49 to 1.30)	0.80 (0.52 to 1.24)	0.96 (0.72 to 1.27)
BUP vs. TRA	NA	NA	NA	NA
BUP vs. VEN	0.69 (0.38 to 1.43)	0.74 (0.33 to 1.62)	0.73 (0.42 to 1.28)	0.80 (0.55 to 1.17)
CIT vs. DES	NA	NA	NA	NA
CIT vs. DUL	NA	NA	NA	NA
CIT vs. ESC	NA	NA	NA	NA
CIT vs. FLUO	NA	NA	NA	NA
CIT vs. FLUV	NA	NA	NA	NA
CIT vs. MIR	NA	NA	NA	NA
CIT vs. NEF	NA	NA	NA	NA
CIT vs. PAR	NA	NA	NA	NA
CIT vs. SER	NA	NA	NA	NA
CIT vs. TRA	NA	NA	NA	NA
CIT vs. VEN	NA	NA	NA	NA
DES vs. DUL	1.11 (0.73 to 1.79)	1.10 (0.59 to 2.03)	1.14 (0.63 to 2.05)	1.08 (0.86 to 1.34)
DES vs. ESC	1.25 (0.59 to 3.13)	1.35 (0.22 to 8.18)	1.35 (0.67 to 2.71)	1.24 (0.86 to 1.79)
DES vs. FLUO	1.25 (0.81 to 2.04)	1.27 (0.64 to 2.54)	1.27 (0.69 to 2.34)	1.14 (0.86 to 1.50)
DES vs. FLUV	0.51 (0.14 to 3.45)	0.76 (0.06 to 10.14)	0.76 (0.17 to 3.37)	0.94 (0.31 to 2.88)
DES vs. MIR	NA	NA	NA	NA
DES vs. NEF	0.77 (0.37 to 1.85)	0.83 (0.21 to 3.27)	1.07 (0.42 to 2.71)	1.15 (0.60 to 2.23)
DES vs. PAR	0.89 (0.52 to 1.69)	1.23 (0.51 to 2.96)	0.93 (0.44 to 1.94)	0.97 (0.69 to 1.35)
DES vs. SER	1.03 (0.66 to 1.69)	1.05 (0.57 to 1.93)	1.04 (0.58 to 1.87)	1.10 (0.85 to 1.43)
DES vs. TRA	NA	NA	NA	NA
DES vs. VEN	0.92 (0.53 to 1.75)	0.95 (0.36 to 2.54)	0.96 (0.48 to 1.89)	0.92 (0.65 to 1.30)
DUL vs. ESC	1.10 (0.53 to 2.70)	1.23 (0.54 to 2.82)	1.19 (0.73 to 1.94)	1.16 (0.85 to 1.58)
DUL vs. FLUO	1.10 (0.73 to 1.72)	1.12 (0.75 to 1.68)	1.12 (0.79 to 1.59)	1.06 (0.81 to 1.37)
DUL vs. FLUV	0.45 (0.12 to 3.03)	0.69 (0.11 to 4.35)	0.67 (0.16 to 2.72)	0.88 (0.29 to 2.67)
DUL vs. MIR	NA	NA	NA	NA
DUL vs. NEF	0.68 (0.33 to 1.61)	0.77 (0.33 to 1.79)	0.94 (0.43 to 2.07)	1.07 (0.56 to 2.06)
DUL vs. PAR	0.78 (0.47 to 1.45)	1.08 (0.66 to 1.77)	0.82 (0.47 to 1.41)	0.90 (0.67 to 1.21)
DUL vs. SER	0.91 (0.61 to 1.43)	0.92 (0.64 to 1.31)	0.92 (0.67 to 1.25)	1.02 (0.80 to 1.31)
DUL vs. TRA	NA	NA	NA	NA
DUL vs. VEN	0.81 (0.48 to 1.49)	0.92 (0.54 to 1.59)	0.84 (0.53 to 1.34)	0.85 (0.61 to 1.19)
ESC vs. FLUO	0.86 (0.41 to 2.17)	0.94 (0.42 to 2.11)	0.94 (0.57 to 1.57)	0.91 (0.62 to 1.34)
ESC vs. FLUV	0.35 (0.09 to 2.86)	IS	0.56 (0.13 to 2.40)	0.76 (0.24 to 2.39)
ESC vs. MIR	NA	NA	NA	NA
ESC vs. NEF	0.53 (0.21 to 1.79)	IS	0.79 (0.33 to 1.88)	0.93 (0.45 to 1.89)
ESC vs. PAR	0.61 (0.27 to 1.69)	0.69 (0.15 to 3.13)	1.15 (0.71 to 1.88)	0.78 (0.51 to 1.18)
ESC vs. SER	0.71 (0.34 to 1.79)	0.77 (0.39 to 1.52)	0.77 (0.47 to 1.24)	0.88 (0.61 to 1.29)
ESC vs. TRA	NA	NA	NA	NA
ESC vs. VEN	0.63 (0.29 to 1.72)	0.71 (0.14 to 3.46)	0.71 (0.39 to 1.28)	0.74 (0.48 to 1.14)
FLUO vs. FLUV	0.40 (0.11 to 2.63)	0.60 (0.09 to 4.02)	0.60 (0.15 to 2.44)	0.83 (0.27 to 2.55)
FLUO vs. MIR	NA	NA	NA	NA
FLUO vs. NEF	0.60 (0.29 to 1.45)	0.66 (0.28 to 1.56)	0.84 (0.38 to 1.86)	1.01 (0.52 to 1.98)

Table D-4. Comparison of response for second-generation antidepressants for placebo star sub-network, by method of analysis: Odds ratios (95% credible interval or 95% confidence interval) (continued)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Logistic Regression
FLUO vs. PAR	0.69 (0.40 to 1.30)	0.73 (0.39 to 1.37)	0.73 (0.41 to 1.28)	0.85 (0.60 to 1.20)
FLUO vs. SER	0.81 (0.53 to 1.28)	0.82 (0.54 to 1.23)	0.82 (0.58 to 1.15)	0.97 (0.73 to 1.28)
FLUO vs. TRA	NA	NA	NA	NA
FLUO vs. VEN	0.72 (0.42 to 1.33)	0.75 (0.42 to 1.35)	0.75 (0.46 to 1.22)	0.81 (0.59 to 1.11)
FLUV vs. MIR	NA	NA	NA	NA
FLUV vs. NEF	0.79 (0.21 to 6.67)	IS	1.40 (0.29 to 6.80)	1.22 (0.34 to 4.35)
FLUV vs. PAR	0.93 (0.26 to 6.67)	1.61 (0.13 to 20.02)	IS	1.02 (0.33 to 3.20)
FLUV vs. SER	1.08 (0.31 to 7.69)	1.37 (0.23 to 8.11)	IS	1.17 (0.38 to 3.57)
FLUV vs. TRA	NA	NA	NA	NA
FLUV vs. VEN	0.96 (0.27 to 7.14)	1.26 (0.05 to 35.00)	1.26 (0.30 to 5.32)	0.98 (0.31 to 3.05)
MIR vs. NEF	NA	NA	NA	NA
MIR vs. PAR	NA	NA	NA	NA
MIR vs. SER	NA	NA	NA	NA
MIR vs. TRA	NA	NA	NA	NA
MIR vs. VEN	NA	NA	NA	NA
NEF vs. PAR	1.01 (0.47 to 2.70)	1.46 (0.47 to 4.51)	0.87 (0.35 to 2.15)	0.84 (0.42 to 1.68)
NEF vs. SER	1.16 (0.57 to 2.86)	1.23 (0.56 to 2.67)	0.98 (0.44 to 2.14)	0.95 (0.49 to 1.85)
NEF vs. TRA	NA	NA	NA	NA
NEF vs. VEN	1.04 (0.48 to 2.78)	0.84 (0.29 to 2.41)	0.90 (0.38 to 2.11)	0.80 (0.40 to 1.61)
PAR vs. SER	1.09 (0.63 to 2.04)	1.14 (0.71 to 1.84)	1.12 (0.65 to 1.93)	1.14 (0.81 to 1.61)
PAR vs. TRA	NA	NA	NA	NA
PAR vs. VEN	0.97 (0.52 to 2.04)	0.78 (0.36 to 1.70)	1.03 (0.54 to 1.96)	0.95 (0.63 to 1.43)
SER vs. TRA	NA	NA	NA	NA
SER vs. VEN	0.87 (0.51 to 1.61)	0.92 (0.55 to 1.54)	0.92 (0.58 to 1.45)	0.84 (0.59 to 1.18)
TRA vs. VEN	NA	NA	NA	NA

Abbreviations: BUP = bupropion; CIT = citalopram; DES = desvenlafaxine; DUL = duloxetine; ESC = escitalopram; FLUO = fluoxetine; FLUV = fluvoxamine; IS = insufficient studies; MIR = mirtazapine; NA = not applicable; NEF = nefazodone; PAR = paroxetine; SER = sertraline; TRA = trazodone; VEN = velafaxine

Table D-5. Comparison of response for second-generation antidepressants for loop sub-network, by method of analysis: Odds ratios (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Logistic Regression
FLUO vs. PAR via SER	0.83 (0.64 to 1.11)	0.88 (0.19 to 4.02)	0.88 (0.44 to 1.76)	0.80 (0.63 to 1.02)
FLUO vs. PAR via placebo	NA/same	0.73 (0.39 to 1.37)	0.73 (0.41 to 1.28)	NA/same
FLUO vs. SER via PAR	0.76 (0.61 to 0.96)	0.69 (0.26 to 1.83)	0.69 (0.34 to 1.37)	0.78 (0.64 to 0.96)
FLUO vs. SER via placebo	NA/same	0.82 (0.54 to 1.23)	0.82 (0.58 to 1.15)	NA/same
PAR vs. SER via FLUO	0.90 (0.68 to 1.25)	0.71 (0.41 to 1.22)	0.71 (0.46 to 1.10)	0.97 (0.74 to 1.26)
PAR vs. SER via placebo	NA/same	1.14 (0.71 to 1.84)	1.12 (0.65 to 1.93)	NA/same

Abbreviations: FLUO = fluoxetine; NA = not applicable; PAR = paroxetine; SER = sertraline

Table D-6. Comparison of response for second-generation antidepressants for one closed loop sub-network, by method of analysis: Odds ratios (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Logistic Regression
BUP vs. CIT	0.74 (0.30 to 2.27)	NA	NA	0.94 (0.49 to 1.80)
BUP vs. ESC	0.91 (0.46 to 2.13)	NA	NA	0.95 (0.55 to 1.64)
BUP vs. FLUO	0.99 (0.65 to 1.61)	IS	IS	1.07 (0.81 to 1.40)
BUP vs. FLUV	0.78 (0.28 to 3.13)	NA	NA	1.18 (0.53 to 2.65)
BUP vs. MIR	1.32 (0.62 to 3.85)	IS	IS	1.10 (0.51 to 2.35)
BUP vs. PAR	0.83 (0.51 to 1.43)	IS	IS	0.89 (0.64 to 1.23)
BUP vs. SER	0.77 (0.52 to 1.18)	Direct	Direct	0.87 (0.67 to 1.13)
BUP vs. TRA	2.04 (1.02 to 4.76)	Direct	Direct	1.75 (0.96 to 3.18)
CIT vs. ESC	1.11 (0.63 to 2.17)	Direct	Direct	1.01 (0.61 to 1.68)
CIT vs. FLUO	1.09 (0.50 to 2.94)	IS	IS	1.14 (0.62 to 2.09)
CIT vs. FLUV	1.05 (0.58 to 2.08)	NA	NA	1.26 (0.71 to 2.21)
CIT vs. MIR	1.37 (0.44 to 7.14)	NA	NA	1.17 (0.45 to 3.07)
CIT vs. PAR	0.91 (0.40 to 2.56)	NA	NA	0.95 (0.50 to 1.79)
CIT vs. SER	0.84 (0.37 to 2.33)	NA	NA	0.93 (0.50 to 1.73)
CIT vs. TRA	2.08 (0.70 to 10.00)	NA	NA	1.86 (0.80 to 4.35)
ESC vs. FLUO	0.98 (0.53 to 1.92)	Direct	Direct	1.12 (0.69 to 1.82)
ESC vs. FLUV	0.85 (0.39 to 2.27)	IS	IS	1.24 (0.60 to 2.56)
ESC vs. MIR	1.22 (0.42 to 5.56)	NA	NA	1.15 (0.47 to 2.83)
ESC vs. PAR	0.81 (0.42 to 1.67)	IS	IS	0.93 (0.55 to 1.58)
ESC vs. SER	0.75 (0.40 to 1.54)	IS	IS	0.91 (0.55 to 1.52)
ESC vs. TRA	1.89 (0.70 to 7.14)	NA	NA	1.84 (0.85 to 3.98)
FLUO vs. FLUV	0.78 (0.31 to 2.86)	NA	NA	1.11 (0.51 to 2.40)
FLUO vs. MIR	1.27 (0.52 to 4.35)	NA	NA	1.03 (0.47 to 2.23)
FLUO vs. PAR via SER	0.83 (0.65 to 1.10)	IS	IS	0.83 (0.65 to 1.06)
FLUO vs. PAR via placebo	NA/same	0.73 (0.39 to 1.37)	0.73 (0.41 to 1.28)	NA/same
FLUO vs. SER	0.77 (0.63 to 0.96)	0.82 (0.54 to 1.23)	0.82 (0.58 to 1.15)	0.81 (0.67 to 1.00)
FLUO vs. TRA	1.96 (0.87 to 5.88)	NA	NA	1.64 (0.88 to 3.05)
MIR vs. PAR	0.50 (0.19 to 1.61)	NA	NA	0.81 (0.37 to 1.80)
MIR vs. SER	0.47 (0.18 to 1.43)	NA	NA	0.79 (0.36 to 1.73)
MIR vs. TRA	1.45 (0.91 to 2.50)	Direct	Direct	1.59 (0.92 to 2.76)
PAR vs. SER via FLUO	0.91 (0.68 to 1.27)	IS	IS	0.98 (0.75 to 1.28)
PAR vs. SER via placebo	NA/same	1.14 (0.71 to 1.84)	1.12 (0.65 to 1.93	NA/same
PAR vs. TRA	2.33 (1.02 to 7.14)	NA	NA	1.97 (1.03 to 3.76)
SER vs. TRA	2.56 (1.16 to 7.14)	IS	IS	2.01 (1.08 to 3.75)

Abbreviations: BUP = bupropion; CIT = citalopram; ESC = escitalopram; FLUO = fluoxetine; FLUV = fluvoxamine; IS = insufficient studies; MIR = mirtazapine; NA = not applicable; PAR = paroxetine; SER = sertraline; TRA = trazodone

Table D-7. Comparison of response for second-generation antidepressants for ladder sub-network, by method of analysis: Odds ratios (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Logistic Regression
BUP vs. CIT	0.75 (0.28 to 2.56)	NA	NA	1.36 (0.72 to 2.58)
BUP vs. DUL	1.20 (0.58 to 2.94)	NA	NA	1.43 (0.90 to 2.28)
BUP vs. ESC	0.94 (0.41 to 2.44)	NA	NA	1.24 (0.76 to 2.03)
BUP vs. FLUO	1.20 (0.68 to 2.44)	NA	NA	1.25 (0.83 to 1.90)
BUP vs. FLUV	0.79 (0.26 to 3.57)	NA	NA	1.82 (0.82 to 4.03)
BUP vs. MIR	1.30 (0.56 to 3.57)	IS	0.67 (0.26 to 1.69)	1.38 (0.65 to 2.91)
BUP vs. PAR	1.10 (0.56 to 2.38)	NA	NA	1.22 (0.79 to 1.90)
BUP vs. SER	0.95 (0.68 to 1.39)	Direct	Direct	1.08 (0.77 to 1.51)
BUP vs. TRA	2.00 (0.99 to 5.00)	Direct	Direct	2.14 (1.18 to 3.86)
BUP vs. VEN	0.79 (0.47 to 1.45)	0.82 (0.38 to 1.79)	0.82 (0.51 to 1.34)	0.98 (0.65 to 1.48)
CIT vs. DUL	1.39 (0.74 to 3.13)	1.52 (0.23 to 10.02)	1.44 (0.78 to 2.64)	1.05 (0.64 to 1.74)
CIT vs. ESC	1.11 (0.63 to 2.27)	Direct	Direct	0.91 (0.56 to 1.47)
CIT vs. FLUO	1.32 (0.63 to 3.57)	NA	NA	0.92 (0.53 to 1.59)
CIT vs. FLUV	1.05 (0.58 to 2.17)	Direct	Direct	1.33 (0.76 to 2.33)
CIT vs. MIR	1.27 (0.41 to 7.14)	NA	NA	1.01 (0.41 to 2.47)
CIT vs. PAR	1.23 (0.61 to 3.03)	NA	NA	0.90 (0.53 to 1.53)
CIT vs. SER	0.95 (0.41 to 3.23)	NA	NA	0.79 (0.44 to 1.41)
CIT vs. TRA	1.96 (0.68 to 10.00)	NA	NA	1.57 (0.72 to 3.43)
CIT vs. VEN	0.83 (0.37 to 2.38)	NA	NA	0.72 (0.41 to 1.25)
DUL vs. ESC	0.79 (0.57 to 1.06)	Direct	Direct	0.86 (0.69 to 1.08)
DUL vs. FLUO	0.94 (0.61 to 1.56)	0.96 (0.58 to 1.60)	0.97 (0.64 to 1.45)	0.87 (0.64 to 1.20)
DUL vs. FLUV	0.66 (0.28 to 1.96)	NA	NA	1.27 (0.63 to 2.56)
DUL vs. MIR	0.92 (0.33 to 3.85)	NA	NA	0.96 (0.44 to 2.10)
DUL vs. PAR	0.88 (0.65 to 1.25)	Direct	Direct	0.85 (0.67 to 1.08)
DUL vs. SER	0.69 (0.37 to 1.52)	NA	NA	0.75 (0.52 to 1.09)
DUL vs. TRA	1.43 (0.57 to 5.26)	NA	NA	1.49 (0.78 to 2.86)
DUL vs. VEN	0.60 (0.36 to 1.11)	NA	NA	0.68 (0.49 to 0.96)
ESC vs. FLUO	1.18 (0.71 to 2.22)	NA	NA	1.01 (0.71 to 1.45)
ESC vs. FLUV	0.85 (0.37 to 2.38)	IS	0.94 (0.42 to 2.11)	1.47 (0.73 to 2.93)
ESC vs. MIR	1.15 (0.41 to 5.00)	NA	NA	1.11 (0.50 to 2.48)
ESC vs. PAR	1.10 (0.72 to 1.85)	1.16 (0.57 to 2.36)	1.09 (0.77 to 1.56)	0.99 (0.72 to 1.35)
ESC vs. SER	0.86 (0.44 to 2.13)	NA	NA	0.87 (0.58 to 1.31)
ESC vs. TRA	1.79 (0.69 to 7.14)	NA	NA	1.73 (0.88 to 3.38)
ESC vs. VEN	0.75 (0.42 to 1.56)	NA	NA	0.79 (0.54 to 1.15)
FLUO vs. FLUV	0.66 (0.25 to 2.22)	NA	NA	1.45 (0.70 to 2.99)
FLUO vs. MIR	0.97 (0.38 to 3.57)	NA	NA	1.10 (0.51 to 2.35)
FLUO vs. PAR	0.91 (0.66 to 1.30)	Direct	Direct	0.98 (0.75 to 1.27)
FLUO vs. SER	0.73 (0.45 to 1.32)	0.90 (0.47 to 1.71)	0.95 (0.62 to 1.45)	0.86 (0.64 to 1.16)
FLUO vs. TRA	1.49 (0.65 to 5.00)	NA	NA	1.71 (0.91 to 3.18)
FLUO vs. VEN	0.64 (0.47 to 0.87)	Direct	Direct	0.78 (0.65 to 0.94)
FLUV vs. MIR	1.08 (0.33 to 7.69)	NA	NA	0.76 (0.28 to 2.09)
FLUV vs. PAR	1.04 (0.43 to 3.45)	NA	NA	0.67 (0.33 to 1.38)
FLUV vs. SER	0.81 (0.29 to 3.57)	NA	NA	0.59 (0.28 to 1.26)
FLUV vs. TRA	1.67 (0.53 to 11.11)	NA	NA	1.18 (0.47 to 2.94)
FLUV vs. VEN	0.71 (0.27 to 2.70)	NA	NA	0.54 (0.26 to 1.12)
MIR vs. PAR	0.66 (0.24 to 2.56)	NA	NA	0.89 (0.41 to 1.92)
MIR vs. SER	0.57 (0.25 to 1.89)	NA	NA	0.78 (0.37 to 1.66)
MIR vs. TRA	1.45 (0.92 to 2.50)	Direct	Direct	1.55 (0.90 to 2.68)
MIR vs. VEN	0.48 (0.20 to 1.69)	NA	NA	0.71 (0.33 to 1.52)
PAR vs. SER	0.78 (0.45 to 1.59)	NA	NA	0.88 (0.63 to 1.24)
PAR vs. TRA	1.61 (0.67 to 5.88)	NA	NA	1.75 (0.92 to 3.31)
PAR vs. VEN	0.68 (0.44 to 1.11)	0.83 (0.50 to 1.38)	0.87 (0.60 to 1.25)	0.80 (0.60 to 1.08)

Table D-7. Comparison of response for second-generation antidepressants for ladder sub-network, by method of analysis: Odds ratios (95% credible interval or 95% confidence interval) (continued)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Logistic Regression
SER vs. TRA	2.04 (0.93 to 5.56)	IS	1.03 (0.46 to2.30)	1.99 (1.08 to 3.67)
SER vs. VEN	0.83 (0.55 to 1.30)	Direct	Direct	0.91 (0.68 to 1.21)
TRA vs. VEN	0.33 (0.14 to 0.99)	NA	NA	0.46 (0.25 to 0.86)

Abbreviations: BUP = bupropion; CIT = citalopram; DUL = duloxetine; ESC = escitalopram; FLUO = fluoxetine; FLUV = fluvoxamine; IS = insufficient studies; MIR = mirtazapine; NA = not applicable; PAR = paroxetine; SER = sertraline; TRA = trazodone; VEN = velafaxine

Table D-8. Comparison of mean change in HAM-D for second-generation antidepressants for placebo star sub-network, by method of analysis: Weighted mean difference (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method
DES vs. DUL	-0.65 (-2.80 to 1.38)	-0.65 (-2.92 to 1.61)	-0.68 (-2.25 to 0.90)
DES vs. ESC	-1.20 (-4.10 to 1.75)	-1.23 (-5.06 to 2.61)	-1.23 (-2.97 to 0.51)
DES vs. FLUO	0.12 (-2.30 to 2.50)	0.72 (-4.27 to 5.71)	-0.27 (-5.19 to 4.64)
DES vs. PAR	-0.88 (-3.20 to 1.24)	-0.67 (-3.33 to 2.00)	-0.72 (-2.65 to 1.21)
DES vs. SER	-0.43 (-2.60 to 1.70)	-0.41 (-2.68 to 1.86)	-0.47 (-2.15 to 1.21)
DES vs. VEN	1.94 (-1.30 to 5.21)	1.92 (-3.05 to 6.89)	1.92 (-0.34 to 4.18)
DUL vs. ESC	-0.53 (-3.30 to 2.20)	-0.55 (-4.68 to 3.58)	-0.55 (-2.34 to 1.24)
DUL vs. FLUO	0.77 (-1.40 to 2.92)	1.15 (-3.45 to 5.76)	0.41 (-4.53 to 5.34)
DUL vs. PAR	-0.24 (-2.20 to 1.63)	-0.04 (-2.59 to 2.51)	-0.04 (-2.02 to 1.94)
DUL vs. SER	0.21 (-1.70 to 2.08)	0.20 (-2.00 to 2.39)	0.21 (-1.53 to 1.95)
DUL vs. VEN	2.59 (-0.50 to 5.69)	2.60 (-2.15 to 7.35)	2.60 (0.29 to 4.91)
ESC vs. FLUO	1.30 (-1.70 to 4.28)	0.91 (-49.15 to 50.98)	0.96 (-4.03 to 5.95)
ESC vs. PAR	0.30 (-2.60 to 3.04)	0.49 (-5.90 to 6.88)	0.51 (-1.60 to 2.62)
ESC vs. SER	0.75 (-2.10 to 3.54)	0.77 (-3.44 to 4.97)	0.76 (-1.13 to 2.65)
ESC vs. VEN	3.12 (-0.61 to 6.85)	IS	3.15 (0.73 to 5.57)
FLUO vs. PAR	-1.00 (-3.40 to 1.23)	-1.08 (-7.51 to 5.36)	-0.45 (-5.51 to 4.61)
FLUO vs. SER	-0.55 (-2.80 to 1.72)	-0.92 (-5.82 to 3.97)	-0.20 (-5.17 to 4.77)
FLUO vs. VEN	1.82 (-1.50 to 5.20)	2.24 (-48.69 to 53.16)	2.19 (-3.00 to 7.39)
PAR vs. SER	0.45 (-1.50 to 2.54)	0.24 (-2.46 to 2.93)	0.25 (-1.82 to 2.32)
PAR vs. VEN	2.83 (-0.29 to 6.11)	2.66 (-4.47 to 9.79)	2.64 (0.08 to 5.20)
SER vs. VEN	2.37 (-0.75 to 5.56)	2.38 (-2.49 to 7.26)	2.39 (0.01 to 4.77)

Abbreviations: DES = desvenlafaxine; DUL = duloxetine; ESC = escitalopram; FLUO = fluoxetine; IS = insufficient studies; PAR = paroxetine; SER = sertraline; VEN = venlafaxine

Table D-9. Comparison of mean change in HAM-D for second-generation antidepressants for loop sub-network, by method of analysis: Weighted mean difference (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Via
ESC vs. FLUO	-1.20 (-4.00 to 1.41)	0.91 (-49.15 to 50.98)	0.96 (-4.03 to 5.95)	Placebo
ESC vs. FLUO	-1.20 (-4.00 to 1.41)	IS	-4.74 (-8.11 to -1.36)	VEN
ESC vs. VEN	0.65 (-2.90 to 3.94)	IS	0.60 (-2.27 to 3.47)	FLUO
FLUO vs. VEN	1.87 (-0.90 to 4.77)	IS	-0.90 (-4.00 to 2.20)	ESC

Abbreviations: ESC = escitalopram; FLUO = fluoxetine; IS = insufficient studies; VEN = venlafaxine

Table D-10. Comparison of mean change in HAM-D for second-generation antidepressants for one closed loop sub-network, by method of analysis: Weighted mean difference (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Via
ESC vs. FLUO	-1.20 (-4.60 to 1.80)	0.91 (-49.15 to 50.98)	0.96 (-4.03 to 5.95)	placebo
ESC vs. FLUO	-1.20 (-4.00 to 1.41)	IS	-4.74 (-8.11 to -1.36)	VEN
ESC vs. FLUV	0.74 (-4.20 to 5.66)	NA	NA	NA
ESC vs. PAR	-1.10 (-5.30 to 2.93)	NA	NA	NA
ESC vs. SER	-1.10 (-4.70 to 2.18)	0.77 (-3.44 to 4.97)	0.76 (-1.13 to 2.65)	placebo
ESC vs. TRA	-0.26 (-4.20 to 3.69)	NA	NA	NA
ESC vs. VEN	0.67 (-2.30 to 3.45)	IS	0.60 (-2.27 to 3.47)	FLUO
FLUO vs. FLUV	1.92 (-2.70 to 6.71)	NA	NA	NA
FLUO vs. PAR	0.04 (-2.90 to 3.24)	IS	-1.49 (-4.38 to 1.40)	TRA
FLUO vs. SER	0.04 (-3.00 to 3.06)	-0.92 (-5.82 to 3.97)	-0.20 (-5.17 to 4.77)	placebo
FLUO vs. TRA	0.92 (-1.90 to 3.96)	NA	NA	NA
FLUO vs. VEN	1.85 (-0.50 to 4.31)	IS	-0.90 (-4.00 to 2.20)	ESC
FLUO vs. VEN	1.85 (-0.50 to 4.31)	2.24 (-48.69 to 53.16)	2.19 (-3.00 to 7.39)	placebo
FLUV vs. PAR	-1.90 (-7.40 to 3.69)	NA	NA	NA
FLUV vs. SER	-1.90 (-5.60 to 1.63)	NA	NA	NA
FLUV vs. TRA	-1.00 (-6.50 to 4.47)	NA	NA	NA
FLUV vs. VEN	-0.07 (-5.10 to 4.71)	NA	NA	NA
PAR vs. SER	0.00 (-4.40 to 4.13)	NA	NA	NA
PAR vs. TRA	0.88 (-2.30 to 4.06)	NA	NA	NA
PAR vs. VEN	1.81 (-2.20 to 5.56)	NA	NA	NA
SER vs. TRA	0.88 (-3.20 to 5.21)	NA	NA	NA
SER vs. VEN	1.81 (-1.50 to 5.21)	NA	NA	NA
TRA vs. VEN	0.93 (-2.90 to 4.61)	IS	3.59 (0.45 to 6.73)	FLUO

Abbreviations: ESC = escitalopram; FLUO = fluoxetine; FLUV = fluvoxamine; IS = insufficient studies; NA = not applicable; PAR = paroxetine; SER = sertraline; TRA = trazodone; VEN = venlafaxine

Table D-11. Comparison of mean change in HAM-D for second-generation antidepressants for ladder sub-network, by method of analysis: Weighted mean difference (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Via
BUP vs. CIT	-2.20 (-9.40 to 5.43)	NA	NA	NA
BUP vs. DUL	-1.70 (-7.60 to 4.43)	NA	NA	NA
BUP vs. ESC	-1.30 (-7.60 to 5.39)	NA	NA	NA
BUP vs. FLUO	-1.70 (-7.00 to 3.25)	NA	NA	NA
BUP vs. PAR	-2.00 (-7.50 to 3.68)	NA	NA	NA
BUP vs. SER	0.83 (-2.70 to 4.30)	NA	NA	NA
BUP vs. VEN	1.04 (-3.50 to 5.14)	IS	-0.74 (-4.21 to 2.73)	SER
CIT vs. DUL	0.54 (-3.90 to 4.71)	IS	0.85 (-2.49 to 4.19)	ESC
CIT vs. ESC	0.91 (-2.70 to 4.51)	NA	NA	NA
CIT vs. FLUO	0.52 (-5.30 to 5.59)	NA	NA	NA
CIT vs. PAR	0.24 (-4.80 to 5.09)	NA	NA	NA
CIT vs. SER	3.02 (-3.80 to 9.39)	NA	NA	NA
CIT vs. VEN	3.23 (-3.20 to 8.95)	NA	NA	NA
DUL vs. ESC	0.36 (-1.90 to 2.82)	NA	NA	NA
DUL vs. FLUO	-0.02 (-3.70 to 2.90)	NA	NA	NA
DUL vs. PAR	-0.30 (-2.60 to 2.06)	NA	NA	NA
DUL vs. SER	2.48 (-2.60 to 7.27)	NA	NA	NA
DUL vs. VEN	2.69 (-1.70 to 6.62)	NA	NA	NA
ESC vs. FLUO	-0.38 (-4.90 to 3.26)	NA	NA	NA
ESC vs. PAR	-0.67 (-4.10 to 2.62)	0.26 (-5.51 to 6.03)	-0.35 (-3.17 to 2.47)	DUL
ESC vs. SER	2.11 (-3.60 to 7.35)	NA	NA	NA
ESC vs. VEN	2.32 (-2.90 to 6.80)	NA	NA	NA
FLUO vs. PAR	-0.28 (-2.20 to 2.36)	NA	NA	NA
FLUO vs. SER	2.50 (-1.10 to 6.53)	1.66 (-31.65 to 34.98)	2.68 (-1.01 to 6.36)	VEN
FLUO vs. VEN	2.71 (0.03 to 5.54)	NA	NA	NA
PAR vs. SER	2.78 (-1.70 to 7.05)	NA	NA	NA
PAR vs. VEN	2.99 (-0.74 to 6.23)	-4.13 (-12.41 to 4.15)	1.89 (-0.86 to 4.64)	FLUO
SER vs. VEN	0.21 (-2.50 to 2.65)	NA	NA	NA

Abbreviations: BUP = bupropion; CIT = citalopram; DUL = duloxetine; ESC = escitalopram; FLUO = fluoxetine; IS = insufficient studies; NA = not applicable; PAR = paroxetine; SER = sertraline; VEN = venlafaxine

Table D-12. Comparison of ACR50 response for biologic DMARDs for placebo star sub-network, by method of analysis: Odds ratios (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Logistic Regression
ABA vs. ADA	0.59 (0.33 to 1.14)	0.67 (0.34 to 1.33)	0.64 (0.38 to 1.08)	0.83 (0.60 to 1.14)
ABA vs. ANA	1.15 (0.57 to 2.63)	1.32 (0.63 to 2.79)	1.32 (0.78 to 2.24)	1.82 (1.20 to 2.76)
ABA vs. ETA	0.17 (0.08 to 0.49)	0.21 (0.08 to 0.57)	0.21 (0.10 to 0.45)	0.41 (0.26 to 0.66)
ABA vs. GOL	0.49 (0.21 to 1.39)	0.59 (0.18 to 1.89)	0.57 (0.28 to 1.17)	0.76 (0.43 to 1.34)
ABA vs. INF	0.85 (0.48 to 1.72)	0.92 (0.49 to 2.29)	0.80 (0.47 to 1.38)	1.01 (0.75 to 1.35)
ABA vs. RIT	0.78 (0.36 to 2.00)	0.88 (0.34 to 1.53)	0.89 (0.49 to 1.60)	1.03 (0.64 to 1.67)
ABA vs. TOC	0.74 (0.42 to 1.49)	0.76 (0.38 to 2.44)	0.77 (0.48 to 1.25)	0.82 (0.60 to 1.13)
ADA vs. ANA	1.89 (0.99 to 4.00)	1.95 (0.82 to 4.61)	2.08 (1.12 to 3.83)	2.20 (1.49 to 3.26)
ADA vs. ETA	0.28 (0.13 to 0.77)	0.32 (0.12 to 0.84)	0.33 (0.15 to 0.75)	0.50 (0.32 to 0.78)
ADA vs. GOL	0.81 (0.36 to 2.13)	0.87 (0.27 to 2.82)	0.90 (0.41 to 1.97)	0.93 (0.53 to 1.59)
ADA vs. INF	1.39 (0.83 to 2.56)	1.42 (0.72 to 2.81)	1.26 (0.67 to 2.35)	1.22 (0.91 to 1.63)
ADA vs. RIT	1.27 (0.62 to 3.13)	1.30 (0.47 to 3.60)	1.39 (0.71 to 2.72)	1.25 (0.79 to 1.98)
ADA vs. TOC	1.20 (0.74 to 2.33)	1.20 (0.60 to 2.44)	1.21 (0.68 to 2.16)	1.00 (0.75 to 1.32)
ANA vs. ETA	0.14 (0.06 to 0.41)	0.16 (0.06 to 0.47)	0.16 (0.07 to 0.36)	0.23 (0.13 to 0.38)
ANA vs. GOL	0.39 (0.16 to 1.18)	0.45 (0.12 to 1.60)	0.43 (0.20 to 0.95)	0.42 (0.23 to 0.77)
ANA vs. INF	0.68 (0.36 to 1.49)	0.71 (0.31 to 1.63)	0.61 (0.32 to 1.13)	0.55 (0.37 to 0.82)
ANA vs. RIT	0.62 (0.27 to 1.72)	0.67 (0.22 to 1.97)	0.67 (0.34 to 1.31)	0.57 (0.33 to 0.96)
ANA vs. TOC	0.58 (0.32 to 1.32)	1.00 (0.45 to 2.21)	0.59 (0.33 to 1.04)	0.45 (0.31 to 0.67)
ETA vs. GOL	2.38 (0.90 to 8.33)	2.77 (0.72 to 10.62)	2.70 (1.05 to 6.96)	1.85 (0.98 to 3.51)
ETA vs. INF	4.17 (1.96 to 11.11)	4.34 (1.62 to 11.60)	3.78 (1.66 to 8.58)	2.45 (1.56 to 3.82)
ETA vs. RIT	3.85 (1.52 to 12.50)	4.15 (1.24 to 13.88)	4.18 (1.78 to 9.82)	2.50 (1.14 to 4.43)
ETA vs. TOC	3.57 (1.69 to 10.00)	3.63 (1.32 to 9.98)	3.65 (1.67 to 7.98)	2.00 (1.28 to 3.12)
GOL vs. INF	1.45 (0.68 to 4.17)	1.63 (0.51 to 5.20)	1.40 (0.63 to 3.08)	1.32 (0.77 to 2.28)
GOL vs. RIT	1.33 (0.53 to 4.76)	1.50 (0.24 to 4.93)	1.55 (0.68 to 3.53)	1.35 (0.70 to 2.60)
GOL vs. TOC	1.27 (0.59 to 3.70)	1.37 (0.38 to 1.97)	1.35 (0.64 to 2.86)	1.08 (0.63 to 1.86)
INF vs. RIT	0.88 (0.41 to 2.13)	0.93 (0.34 to 2.51)	1.11 (0.56 to 2.19)	1.02 (0.64 to 1.62)
INF vs. TOC	0.83 (0.50 to 1.56)	0.72 (0.38 to 1.38)	0.97 (0.54 to 1.74)	0.82 (0.62 to 1.08)
RIT vs. TOC	0.83 (0.41 to 2.13)	0.84 (0.26 to 2.77)	0.87 (0.46 to 1.65)	0.80 (0.51 to 1.26)

Abbreviations: ABA = abatacept; ADA = adalimumab; ANA = anakinra; ETA = etanercept; GOL = golimumab; INF = infliximab; RIT = rituximab; TOC = tocilizumab

Table D-13. Comparison of ACR50 response for biologic DMARDs for loop sub-network, by method of analysis: Odds ratios (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Logistic Regression
ABA vs. INF	0.92 (0.50 to 1.79)	0.90 (0.33 to 2.44)	0.77 (0.48 to 1.25)	1.04 (0.78 to 1.38)

Abbreviations: ABA = abatacept; INF = infliximab

Table D-14. Comparison of ACR50 response for biologic DMARDs for one closed loop sub-network using adalimumab, by method of analysis: Odds ratios (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Logistic Regression
ABA vs. ADA	0.62 (0.31 to 1.33)	0.67 (0.34 to 1.33)	0.64 (0.38 to 1.08)	0.83 (0.60 to 1.15)
ABA vs. INF	0.93 (0.51 to 1.89)	0.92 (0.49 to 2.29)	0.80 (0.47 to 1.38)	1.01 (0.75 to 1.36)
ADA vs. INF	1.39 (0.78 to 2.94)	1.42 (0.72 to 2.81)	1.26 (0.67 to 2.35)	1.21 (0.91 to 1.63)

Abbreviations: ABA = abatacept; ADA = adalimumab; INF = infliximab

Table D-15. Comparison of ACR50 response for biologic DMARDs for one closed loop sub-network using etanercept, by method of analysis: Odds ratios (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Logistic Regression
ABA vs. ETA	0.19 (0.08 to 0.52)	0.21 (0.08 to 0.57)	0.21 (0.10 to 0.45)	0.41 (0.25 to 0.67)
ABA vs. INF	0.94 (0.56 to 1.67)	0.88 (0.34 to 2.29)	0.80 (0.47 to 1.38)	1.00 (0.75 to 1.35)
ETA vs. INF	4.17 (1.96 to 11.11)	4.34 (1.62 to 11.60)	3.78 (1.66 to 8.58)	2.46 (1.54 to 3.93)

Abbreviations: ABA = abatacept; ETA = etanercept; INF = infliximab

Table D-16. Comparison of ACR50 response for biologic DMARDs for ladder sub-network, by method of analysis: Odds ratios (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Logistic Regression
ABA vs. ETA	0.19 (0.05 to 1.05)	NA	NA	0.79 (0.50 to 1.26)
ABA vs. INF	0.98 (0.38 to 3.45)	Direct	Direct	0.98 (0.65 to 1.47)
ETA vs. INF	4.00 (1.72 to 12.50)	4.34 (1.62 to 11.60)	3.78 (1.66 to 8.58)	1.24 (0.91 to 1.67)

Abbreviations: ABA = abatacept; ETA = etanercept; INF = infliximab

Appendix E: Comparison of Precision

For each set of results in Appendix D, the tables below provide a comparison of the precision (determined by width of the 95% credible interval or confidence interval) for the Bayesian MTC meta-analysis and the frequentist methods used. The darkest shading indicates the most precise result and the lightest indicates the least precise. The drug-drug comparisons for each of the tables below are limited to those where at least one of the frequentist methods could produce a result.

Table E-1. Comparison of response for second-generation antidepressants (full network), by method of analysis: Odds ratios (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Logistic Regression
BUP vs. CIT	0.58 (0.29 to 1.39)	NA	NA	0.81 (0.48 to 1.35)
BUP vs. DES	0.88 (0.59 to 1.40)	0.78 (0.30 to 2.01)	0.77 (0.40 to 1.50)	0.93 (0.70 to 1.23)
BUP vs. DUL	0.99 (0.69 to 1.46)	0.85 (0.50 to 1.45)	0.87 (0.56 to 1.36)	1.00 (0.78 to 1.29)
BUP vs. ESC	0.73 (0.50 to 1.12)	1.04 (0.21 to 5.11)	1.04 (0.59 to 1.85)	0.76 (0.58 to 1.00)
BUP vs. FLUO	1.07 (0.78 to 1.52)	0.98 (0.56 to 1.71)	0.98 (0.62 to 1.56)	1.05 (0.83 to 1.32)
BUP vs. FLUV	0.62 (0.26 to 1.79)	0.59 (0.02 to 15.8)	0.58 (0.14 to 2.46)	1.03 (0.54 to 1.94)
BUP vs. MIR	0.75 (0.45 to 1.35)	0.71 (0.0 to 113.5)	IS	0.76 (0.51 to 1.12)
BUP vs. NEF	0.90 (0.55 to 1.58)	0.65 (0.19 to 2.18)	0.82 (0.35 to 1.91)	0.94 (0.64 to 1.39)
BUP vs. PAR	0.92 (0.64 to 1.38)	0.94 (0.45 to 1.99)	0.71 (0.38 to 1.33)	0.92 (0.70 to 1.19)
BUP vs. SER	0.90 (0.67 to 1.26)	0.80 (0.49 to 1.30)	0.80 (0.52 to 1.24)	0.91 (0.73 to 1.14)
BUP vs. TRA	1.09 (0.67 to 1.93)	0.54 (0.06 to 4.55)	IS	1.01 (0.69 to 1.50)
BUP vs. VEN	0.83 (0.58 to 1.22)	0.74 (0.33 to 1.62)	0.73 (0.42 to 1.28)	0.83 (0.64 to 1.07)
CIT vs. DES	1.32 (0.66 to 3.14)	NA	NA	1.15 (0.69 to 1.91)
CIT vs. DUL	1.48 (0.76 to 3.34)	NA	NA	1.24 (0.77 to 2.01)
CIT vs. ESC	1.11 (0.59 to 2.38)	NA	NA	0.94 (0.59 to 1.49)
CIT vs. FLUO	1.60 (0.82 to 3.63)	IS	IS	1.30 (0.80 to 2.11)
CIT vs. FLUV	1.03 (0.53 to 2.23)	NA	NA	1.27 (0.75 to 2.14)
CIT vs. MIR	1.11 (0.51 to 2.93)	NA	NA	0.94 (0.53, to1.67)
CIT vs. NEF	1.34 (0.63 to 3.46)	NA	NA	1.17 (0.66 to 2.07)
CIT vs. PAR	1.38 (0.70 to 3.15)	NA	NA	1.13 (0.69 to1.85)
CIT vs. SER	1.34 (0.69 to 3.08)	NA	NA	1.13 (0.69 to 1.84)
CIT vs. TRA	1.61 (0.74 to 4.35)	NA	NA	1.26 (0.69 to 2.27)
CIT vs. VEN	1.23 (0.62 to 2.84)	NA	NA	1.03 (0.63 to 1.69)
DES vs. DUL	1.10 (0.78 to 1.59)	1.10 (0.59 to 2.03)	1.14 (0.63 to 2.05)	1.08 (0.87 to 1.34)
DES vs. ESC	0.81 (0.55 to 1.24)	1.35 (0.22 to 8.18)	1.35 (0.67 to 2.71)	0.82 (0.63 to 1.06)
DES vs. FLUO	1.18 (0.84 to 1.73)	1.27 (0.64 to 2.54)	1.27 (0.69 to 2.34)	1.13 (0.89 to 1.42)
DES vs. FLUV	0.68 (0.29 to 1.99)	0.76 (0.06 to 10.1)	0.76 (0.17 to 3.37)	1.10 (0.59 to 2.08)
DES vs. MIR	0.82 (0.48 to 1.54)	NA	NA	0.82 (0.55 to 1.20)
DES vs. NEF	1.00 (0.61 to 1.75)	0.83 (0.21 to 3.27)	1.07 (0.42 to 2.71)	1.02 (0.70 to 1.48)
DES vs. PAR	1.02 (0.70 to 1.53)	1.23 (0.51 to 2.96)	0.93 (0.44 to 1.94)	0.99 (0.77 to 1.27)
DES vs. SER	1.00 (0.71 to 1.46)	1.05 (0.57 to 1.93)	1.04 (0.58 to 1.87)	0.98 (0.78 to 1.24)
DES vs. TRA	1.20 (0.69 to 2.26)	NA	NA	1.09 (0.72 to 1.65)
DES vs. VEN	0.91 (0.63 to 1.38)	0.95 (0.36 to 2.54)	0.96 (0.48 to 1.89)	0.89 (0.69 to 1.15)
DUL vs. ESC	0.74 (0.56 to 0.99)	1.23 (0.54 to 2.82)	1.19 (0.73 to 1.94)	0.76 (0.63 to 0.91)
DUL vs. FLUO	1.07 (0.82 to 1.43)	1.12 (0.75 to 1.68)	1.12 (0.79 to 1.59)	1.05 (0.87 to 1.26)
DUL vs. FLUV	0.62 (0.27 to 1.72)	0.69 (0.11 to 4.35)	0.67 (0.16 to 2.72)	1.02 (0.55 to 1.89)
DUL vs. MIR	0.74 (0.45 to 1.30)	0.74 (0.20 to 2.69)	IS	0.76 (0.53 to 1.08)
DUL vs. NEF	0.90 (0.58 to 1.51)	0.77 (0.33 to 1.79)	0.94 (0.43 to 2.07)	0.94 (0.66 to 1.35)
DUL vs. PAR	0.93 (0.70 to 1.24)	1.08 (0.66 to 1.77)	0.82 (0.47 to 1.41)	0.92 (0.76 to 1.10)
DUL vs. SER	0.90 (0.68 to 1.22)	0.92 (0.64 to 1.31)	0.92 (0.67 to 1.25)	0.91 (0.75 to 1.11)
DUL vs. TRA	1.08 (0.65 to 1.93)	1.25 (0.07 to 21.4)	IS	1.01 (0.69 to 1.49)
DUL vs. VEN	0.82 (0.61 to 1.15)	0.92 (0.54 to 1.59)	0.84 (0.53 to 1.34)	0.83 (0.67 to 1.03)
ESC vs. FLUO	1.44 (1.06 to 1.99)	0.94 (0.42 to 2.11)	0.94 (0.57 to 1.57)	1.38 (1.12 to 1.70)
ESC vs. FLUV	0.83 (0.37 to 2.26)	IS	0.56 (0.13 to 2.40)	1.35 (0.74 to 2.47)

Table E-1. Comparison of response for second-generation antidepressants (full network), by method of analysis: Odds ratios (95% credible interval or 95% confidence interval) (continued)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Logistic Regression
ESC vs. MIR	1.00 (0.60 to 1.80)	IS	IS	1.00 (0.69 to 1.44)
ESC vs. NEF	1.21 (0.75 to 2.07)	IS	0.79 (0.33 to 1.88)	1.24 (0.86 to 1.80)
ESC vs. PAR	1.24 (0.90 to 1.74)	0.69 (0.15 to 3.13)	1.15 (0.71 to 1.88)	1.21 (0.98 to 1.49)
ESC vs. SER	1.21 (0.88 to 1.70)	0.77 (0.39 to 1.52)	0.77 (0.47 to 1.24)	1.20 (0.97 to 1.49)
ESC vs. TRA	1.45 (0.85 to 2.68)	IS	IS	1.33 (0.90 to 1.99)
ESC vs. VEN	1.11 (0.80 to 1.58)	0.71 (0.14 to 3.46)	0.71 (0.39 to 1.28)	1.09 (0.87 to 1.37)
FLUO vs. FLUV	0.57 (0.25 to 1.60)	0.60 (0.09 to 4.02)	0.60 (0.15 to 2.44)	0.98 (0.53 to 1.81)
FLUO vs. MIR	0.69 (0.43 to 1.17)	0.77 (0.34 to 1.71)	IS	0.72 (0.51 to 1.02)
FLUO vs. NEF	0.84 (0.55 to 1.36)	0.66 (0.28 to 1.56)	0.84 (0.38 to 1.86)	0.90 (0.64 to 1.21)
FLUO vs. PAR	0.86 (0.66 to 1.13)	0.73 (0.39 to 1.37)	0.73 (0.41 to 1.28)	0.88 (0.72 to 1.06)
FLUO vs. SER	0.84 (0.66 to 1.06)	0.82 (0.54 to 1.23)	0.82 (0.58 to 1.15)	0.87 (0.74 to 1.03)
FLUO vs. TRA	1.00 (0.62 to 1.75)	1.30 (0.22 to 7.66)	IS	0.97 (0.66 to 1.41)
FLUO vs. VEN	0.77 (0.61 to 0.97)	0.75 (0.42 to 1.35)	0.75 (0.46 to 1.22)	0.79 (0.67 to 0.94)
FLUV vs. MIR	0.97 (0.40 to 3.17)	NA	NA	0.74 (0.37 to 1.47)
FLUV vs. NEF	1.18 (0.50 to 3.72)	IS	1.40 (0.29 to 6.80)	0.92 (0.46 to 1.83)
FLUV vs. PAR	1.21 (0.54 to 3.5)	1.61 (0.13 to 20.0)	IS	0.89 (0.48 to 1.66)
FLUV vs. SER	1.18 (0.52 to 3.38)	1.37 (0.23 to 8.11)	IS	0.89 (0.48 to 1.65)
FLUV vs. TRA	1.42 (0.57 to 4.70)	NA	NA	0.99 (0.49 to 1.99)
FLUV vs. VEN	1.08 (0.48 to 3.12)	1.26 (0.05 to 35.0)	1.26 (0.30 to 5.32)	0.81 (0.43 to 1.51)
MIR vs. NEF	1.14 (0.63 to 2.29)	IS	IS	1.25 (0.78 to 1.99)
MIR vs. PAR	1.18 (0.74 to 1.97)	1.25 (0.43 to 3.64)	IS	1.21 (0.86 to 1.70)
MIR vs. SER	1.14 (0.71 to 1.98)	0.89 (0.17 to 4.61)	IS	1.20 (0.84 to 1.72)
MIR vs. TRA	1.40 (0.84 to 2.54)	IS	IS	1.34 (0.89 to 2.01)
MIR vs. VEN	1.04 (0.64 to 1.85)	1.03 (0.33 to 3.20)	IS	1.10 (0.76 to 1.58)
NEF vs. PAR	0.98 (0.62 to 1.63)	1.46 (0.47 to 4.51)	0.87 (0.35 to 2.15)	0.97 (0.68 to 1.40)
NEF vs. SER	0.96 (0.63 to 1.54)	1.23 (0.56 to 2.67)	0.98 (0.44 to 2.14)	0.97 (0.69 to 1.36)
NEF vs. TRA	1.15 (0.63 to 2.34)	IS	IS	1.07 (0.66 to 1.74)
NEF vs. VEN	0.87 (0.55 to 1.45)	0.84 (0.29 to 2.41)	0.90 (0.38 to 2.11)	0.88 (0.61 to 1.26)
PAR vs. SER	0.96 (0.72 to 1.31)	1.14 (0.71 to 1.84)	1.12 (0.65 to 1.93)	0.99 (0.81 to 1.22)
PAR vs. TRA	1.16 (0.71 to 2.04)	IS	IS	1.11 (0.76 to 1.62)
PAR vs. VEN	0.88 (0.65 to 1.23)	0.78 (0.36 to 1.70)	1.03 (0.54 to 1.96)	0.91 (0.72 to 1.14)
SER vs. TRA	1.19 (0.74 to 2.06)	1.03 (0.13 to 8.31)	IS	1.11 (0.76 to 1.62)
SER vs. VEN	0.91 (0.70 to 1.21)	0.92 (0.55 to 1.54)	0.92 (0.58 to 1.45)	0.91 (0.75 to 1.11)
TRA vs. VEN	0.71 (0.43 to 1.30)	1.51 (0.23 to 9.95)	IS	0.82 (0.55 to 1.21)

Abbreviations: BUP = bupropion; CIT = citalopram; DES = desvenlafaxine; DUL = duloxetine; ESC = escitalopram; FLUO = fluoxetine; FLUV = fluvoxamine; IS = insufficient studies; MIR = mirtazapine; NA = not applicable; NEF = nefazodone; PAR = paroxetine; SER = sertraline; TRA = trazodone; VEN = velafaxine

Table E-2. Comparison of mean change in HAM-D for second-generation antidepressants (full network), by method of analysis: Weighted mean difference (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method
BUP vs. ESC	1.42 (-1.50 to 4.43)	IS	0.00 (-2.79 to 2.79)
BUP vs. FLUV	2.24 (-0.96 to 5.47)	IS	0.55 (-2.47 to 3.57)
BUP vs. TRA	1.44 (-1.70 to 4.68)	IS	0.60 (-3.01 to 4.21)
BUP vs. VEN	1.62 (-1.30 to 4.52)	IS	-0.74 (-4.21 to 2.73)
CIT vs. DUL	0.12 (-2.90 to 3.09)	-0.95 (-32.88 to 30.98)	0.85 (-2.49 to 4.19)
CIT vs. FLUO	0.01 (-3.10 to 3.03)	IS	-0.20 (-2.88 to 2.48)
CIT vs. SER	0.27 (-2.80 to 3.30)	IS	0.10 (-2.76 to 2.96)
CIT vs. VEN	1.09 (-2.00 to 4.14)	IS	-1.10 (-4.30 to 2.10)
DES vs. DUL	-0.48 (-2.40 to 1.40)	-0.65 (-2.92 to 1.61)	-0.68 (-2.25 to 0.90)
DES vs. ESC	0.29 (-1.70 to 2.32)	-1.23 (-5.06 to 2.61)	-1.23 (-2.97 to 0.51)
DES vs. FLUO	-0.59 (-2.60 to 1.28)	0.72 (-4.27 to 5.71)	-0.27 (-5.19 to 4.64)
DES vs. PAR	-0.58 (-2.40 to 1.31)	-0.67 (-3.33 to 2.00)	-0.72 (-2.65 to 1.21)
DES vs. SER	-0.33 (-2.20 to 1.53)	-0.41 (-2.68 to 1.86)	-0.47 (-2.15 to 1.21)
DES vs. VEN	0.49 (-1.50 to 2.43)	1.92 (-3.05 to 6.89)	1.92 (-0.34 to 4.18)
DUL vs. ESC	0.77 (-0.49 to 2.10)	-0.55 (-4.68 to 3.58)	-0.55 (-2.34 to 1.24)
DUL vs. FLUO	-0.11 (-1.50 to 1.19)	1.15 (-3.45 to 5.76)	0.41 (-4.53 to 5.34)
DUL vs. FLUV	1.59 (-0.42 to 3.64)	1.27 (-5.47 to 8.00)	1.40 (-0.43 to 3.22)
DUL vs. MIR	1.83 (-0.77 to 4.50)	2.23 (-8.66 to 13.12)	-2.23 (-3.91 to -0.55)
DUL vs. PAR	-0.10 (-1.30 to 1.17)	-0.04 (-2.59 to 2.51)	-0.04 (-2.02 to 1.94)
DUL vs. SER	0.15 (-1.30 to 1.53)	0.20 (-2.00 to 2.39)	0.21 (-1.53 to 1.95)
DUL vs. TRA	0.80 (-1.20 to 2.79)	-0.10 (-13.31 to 13.11)	-0.70 (-2.74 to 1.34)
DUL vs. VEN	0.97 (-0.48 to 2.41)	2.60 (-2.15 to 7.35)	2.60 (0.29 to 4.91)
ESC vs. FLUO	-0.88 (-2.40 to 0.48)	0.91 (-49.15 to 50.98)	0.96 (-4.03 to 5.95)
ESC vs. FLUV	0.82 (-1.30 to 2.93)	IS	0.55 (-2.59 to 3.69)
ESC vs. NEF	-1.70 (-5.00 to 1.47)	IS	-1.90 (-4.77 to 0.97)
ESC vs. PAR	-0.87 (-2.30 to 0.54)	0.26 (-5.51 to 6.03)	0.51 (-1.60 to 2.62)
ESC vs. SER	-0.63 (-2.10 to 0.78)	0.77 (-3.44 to 4.97)	0.76 (-1.13 to 2.65)
ESC vs. TRA	0.02 (-2.00 to 2.05)	0.78 (-17.89 to 19.45)	-2.99 (-5.85 to -0.13)
ESC vs. VEN	0.20 (-1.30 to 1.63)	IS	3.15 (0.73 to 5.57)
FLUO vs. MIR	1.94 (-0.53 to 4.61)	1.72 (-4.68 to 8.11)	-2.12 (-4.30 to 0.06)
FLUO vs. PAR	0.01 (-1.00 to 1.22)	-1.08 (-7.51 to 5.36)	-0.45 (-5.51 to 4.61)
FLUO vs. SER	0.26 (-1.00 to 1.65)	-0.92 (-5.82 to 3.97)	-0.20 (-5.17 to 4.77)
FLUO vs. VEN	1.08 (-0.14 to 2.41)	2.24 (-48.69 to 53.16)	2.19 (-3.00 to 7.39)
FLUV vs. TRA	-0.80 (-3.20 to 1.59)	IS	-2.10 (-4.56 to 0.37)
FLUV vs. VEN	-0.62 (-2.60 to 1.35)	3.53 (-20.92 to 27.98)	-1.21 (-3.33 to 0.92)
MIR vs. TRA	-1.00 (-3.90 to 1.84)	IS	1.53 (-0.83 to 3.89)
MIR vs. VEN	-0.86 (-3.50 to 1.71)	IS	2.42 (0.42 to 4.42)
NEF vs. PAR	0.80 (-2.20 to 3.96)	2.01 (-20.25 to 24.27)	0.61 (-2.14 to 3.36)
NEF vs. TRA	1.70 (-1.60 to 5.15)	2.68 (-17.72 to 23.08)	-1.09 (-4.23 to 2.05)
NEF vs. VEN	1.87 (-1.20 to 5.04)	IS	2.50 (-0.64 to 5.64)
PAR vs. SER	0.24 (-1.10 to 1.47)	0.24 (-2.46 to 2.93)	0.25 (-1.82 to 2.32)
PAR vs. TRA	0.89 (-0.84 to 2.61)	0.67 (-6.88 to 8.22)	-1.70 (-4.45 to 1.05)
PAR vs. VEN	1.07 (-0.17 to 2.24)	2.66 (-4.47 to 9.79)	2.64 (0.08 to 5.20)
SER vs. VEN	0.82 (-0.44 to 2.09)	2.38 (-2.49 to 7.26)	2.39 (0.01 to 4.77)
TRA vs. VEN	0.18 (-1.80 to 2.08)	0.79 (-5.72 to 7.29)	-0.85 (-4.00 to 2.31)

Abbreviations: BUP = bupropion; CIT = citalopram; DES = desvenlafaxine; DUL = duloxetine; ESC = escitalopram; FLUO = fluoxetine; FLUV = fluvoxamine; IS = insufficient studies; MIR = mirtazapine; NA = not applicable; NEF = nefazodone; PAR = paroxetine; SER = sertraline; TRA = trazodone; VEN = velafaxine

Table E-3. Comparison of ACR50 response for biologic DMARDs (full network), by method of analysis: Odds ratios (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Logistic Regression
ABA vs. ADA	0.65 (0.37 to 1.20)	0.67 (0.34 to 1.33)	0.64 (0.38 to 1.08)	0.83 (0.60 to 1.14)
ABA vs. ANA	1.26 (0.63 to 2.78)	1.32 (0.63 to 2.79)	1.32 (0.78 to 2.24)	1.82 (1.20 to 2.76)
ABA vs. ETA	0.19 (0.08 to 0.50)	0.21 (0.08 to 0.57)	0.21 (0.10 to 0.45)	0.41 (0.26 to 0.66)
ABA vs. GOL	0.54 (0.23 to 1.49)	0.59 (0.18 to 1.89)	0.57 (0.28 to 1.17)	0.76 (0.43 to 1.34)
ABA vs. INF	0.94 (0.58 to 1.65)	0.92 (0.49 to 2.29)	0.80 (0.47 to 1.38)	1.01 (0.75 to 1.35)
ABA vs. RIT	0.84 (0.39 to 2.08)	0.88 (0.34 to 1.53)	0.89 (0.49 to 1.60)	1.03 (0.64 to 1.67)
ABA vs. TOC	0.80 (0.47 to 1.57)	0.76 (0.38 to 2.44)	0.77 (0.48 to 1.25)	0.82 (0.60 to 1.13)
ADA vs. ANA	1.88 (1.01 to 3.98)	1.95 (0.82 to 4.61)	2.08 (1.12 to 3.83)	2.20 (1.49 to 3.26)
ADA vs. ETA[a]	0.29 (0.13 to 0.73)	0.32 (0.12 to 0.84)	0.33 (0.15 to 0.75)	0.50 (0.32 to 0.78)
ADA vs. GOL	0.80 (0.36 to 2.14)	0.87 (0.27 to 2.82)	0.90 (0.41 to 1.97)	0.93 (0.53 to 1.59)
ADA vs. INF	1.39 (0.86 to 2.53)	1.42 (0.72 to 2.81)	1.26 (0.67 to 2.35)	1.22 (0.91 to 1.63)
ADA vs. RIT	1.25 (0.61 to 3.04)	1.30 (0.47 to 3.60)	1.39 (0.71 to 2.72)	1.25 (0.79 to 1.98)
ADA vs. TOC	1.19 (0.74 to 2.27)	1.20 (0.60 to 2.44)	1.21 (0.68 to 2.16)	1.00 (0.75 to 1.32)
ANA vs. ETA	0.14 (0.06 to 0.41)	0.16 (0.06 to 0.47)	0.16 (0.07 to 0.36)	0.23 (0.13 to 0.38)
ANA vs. GOL	0.39 (0.16 to 1.18)	0.45 (0.12 to 1.60)	0.43 (0.20 to 0.95)	0.42 (0.23 to 0.77)
ANA vs. INF	0.68 (0.36 to 1.47)	0.71 (0.31 to 1.63)	0.61 (0.32 to 1.13)	0.55 (0.37 to 0.82)
ANA vs. RIT	0.61 (0.27 to 1.70)	0.67 (0.22 to 1.97)	0.67 (0.34 to 1.31)	0.57 (0.33 to 0.96)
ANA vs. TOC	0.58 (0.32 to 1.30)	1.00 (0.45 to 2.21)	0.59 (0.33 to 1.04)	0.45 (0.31 to 0.67)
ETA vs. GOL	2.39 (0.92 to 8.64)	2.77 (0.72 to 10.62)	2.70 (1.05 to 6.96)	1.85 (0.98 to 3.51)
ETA vs. INF	4.17 (2.00 to 11.20)	4.34 (1.62 to 11.60)	3.78 (1.66 to 8.58)	2.45 (1.56 to 3.82)
ETA vs. RIT	3.76 (1.51 to 12.70)	4.15 (1.24 to 13.88)	4.18 (1.78 to 9.82)	2.50 (1.41 to 4.43)
ETA vs. TOC	3.59 (1.73 to 9.80)	3.63 (1.32 to 9.98)	3.65 (1.67 to 7.98)	2.00 (1.28 to 3.12)
GOL vs. INF	1.47 (0.68 to 4.05)	1.63 (0.51 to 5.20)	1.40 (0.63 to 3.08)	1.32 (0.77 to 2.28)
GOL vs. RIT	1.33 (0.53 to 4.54)	1.50 (0.24 to 4.93)	1.55 (0.68 to 3.53)	1.35 (0.70 to 2.60)
GOL vs. TOC	1.27 (0.59 to 3.57)	1.37 (0.38 to 1.97)	1.35 (0.64 to 2.86)	1.08 (0.63 to 1.86)
INF vs. RIT	0.87 (0.41 to 2.07)	0.93 (0.34 to 2.51)	1.11 (0.56 to 2.19)	1.02 (0.64 to 1.62)
INF vs. TOC	0.83 (0.51 to 1.52)	0.72 (0.38 to 1.38)	0.97 (0.54 to 1.74)	0.82 (0.62 to 1.08)
RIT vs. TOC	0.84 (0.42 to 2.12)	0.84 (0.26 to 2.77)	0.87 (0.46 to 1.65)	0.80 (0.51 to 1.26)

[a]The Bayesian MTC method and the Bucher method produced the same precision and therefore are shaded the same (i.e., they tied for second most precise for this comparison)

Abbreviations: ABA = abatacept; ADA = adalimumab; ANA = anakinra; ETA = etanercept; GOL = golimumab; INF = infliximab; RIT = rituximab; TOC = tocilizumab

Table E-4. Comparison of response for second-generation antidepressants for placebo star sub-network, by method of analysis: Odds ratios (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Logistic Regression
BUP vs. DES	0.73 (0.43 to 1.35)	0.78 (0.30 to 2.01)	0.77 (0.40 to 1.50)	0.87 (0.64 to 1.18)
BUP vs. DUL	0.84 (0.51 to 1.49)	0.85 (0.50 to 1.45)	0.87 (0.56 to 1.36)	0.94 (0.70 to 1.26)
BUP vs. ESC	0.94 (0.43 to 2.56)	1.04 (0.21 to 5.11)	1.04 (0.59 to 1.85)	1.08 (0.72 to 1.63)
BUP vs. FLUO	0.94 (0.56 to 1.72)	0.98 (0.56 to 1.71)	0.98 (0.62 to 1.56)	0.99 (0.73 to 1.33)
BUP vs. FLUV	0.39 (0.11 to 2.63)	0.59 (0.02 to 15.83)	0.58 (0.14 to 2.46)	0.82 (0.26 to 2.54)
BUP vs. NEF	0.58 (0.27 to 1.49)	0.65 (0.19 to 2.18)	0.82 (0.35 to 1.91)	1.00 (0.51 to 1.98)
BUP vs. PAR	0.67 (0.37 to 1.39)	0.94 (0.45 to 1.99)	0.71 (0.38 to 1.33)	0.84 (0.57 to 1.23)
BUP vs. SER	0.78 (0.47 to 1.41)	0.80 (0.49 to 1.30)	0.80 (0.52 to 1.24)	0.96 (0.72 to 1.27)
BUP vs. VEN	0.69 (0.38 to 1.43)	0.74 (0.33 to 1.62)	0.73 (0.42 to 1.28)	0.80 (0.55 to 1.17)
DES vs. DUL	1.11 (0.73 to 1.79)	1.10 (0.59 to 2.03)	1.14 (0.63 to 2.05)	1.08 (0.86 to 1.34)
DES vs. ESC	1.25 (0.59 to 3.13)	1.35 (0.22 to 8.18)	1.35 (0.67 to 2.71)	1.24 (0.86 to 1.79)
DES vs. FLUO	1.25 (0.81 to 2.04)	1.27 (0.64 to 2.54)	1.27 (0.69 to 2.34)	1.14 (0.86 to 1.50)
DES vs. FLUV	0.51 (0.14 to 3.45)	0.76 (0.06 to 10.14)	0.76 (0.17 to 3.37)	0.94 (0.31 to 2.88)
DES vs. NEF	0.77 (0.37 to 1.85)	0.83 (0.21 to 3.27)	1.07 (0.42 to 2.71)	1.15 (0.60 to 2.23)
DES vs. PAR	0.89 (0.52 to 1.69)	1.23 (0.51 to 2.96)	0.93 (0.44 to 1.94)	0.97 (0.69 to 1.35)
DES vs. SER	1.03 (0.66 to 1.69)	1.05 (0.57 to 1.93)	1.04 (0.58 to 1.87)	1.10 (0.85 to 1.43)
DES vs. VEN	0.92 (0.53 to 1.75)	0.95 (0.36 to 2.54)	0.96 (0.48 to 1.89)	0.92 (0.65 to 1.30)
DUL vs. ESC	1.10 (0.53 to 2.70)	1.23 (0.54 to 2.82)	1.19 (0.73 to 1.94)	1.16 (0.85 to 1.58)
DUL vs. FLUO	1.10 (0.73 to 1.72)	1.12 (0.75 to 1.68)	1.12 (0.79 to 1.59)	1.06 (0.81 to 1.37)
DUL vs. FLUV	0.45 (0.12 to 3.03)	0.69 (0.11 to 4.35)	0.67 (0.16 to 2.72)	0.88 (0.29 to 2.67)
DUL vs. NEF	0.68 (0.33 to 1.61)	0.77 (0.33 to 1.79)	0.94 (0.43 to 2.07)	1.07 (0.56 to 2.06)
DUL vs. PAR	0.78 (0.47 to 1.45)	1.08 (0.66 to 1.77)	0.82 (0.47 to 1.41)	0.90 (0.67 to 1.21)
DUL vs. SER	0.91 (0.61 to 1.43)	0.92 (0.64 to 1.31)	0.92 (0.67 to 1.25)	1.02 (0.80 to 1.31)
DUL vs. VEN	0.81 (0.48 to 1.49)	0.92 (0.54 to 1.59)	0.84 (0.53 to 1.34)	0.85 (0.61 to 1.19)
ESC vs. FLUO	0.86 (0.41 to 2.17)	0.94 (0.42 to 2.11)	0.94 (0.57 to 1.57)	0.91 (0.62 to 1.34)
ESC vs. FLUV	0.35 (0.09 to 2.86)	IS	0.56 (0.13 to 2.40)	0.76 (0.24 to 2.39)
ESC vs. NEF	0.53 (0.21 to 1.79)	IS	0.79 (0.33 to 1.88)	0.93 (0.45 to 1.89)
ESC vs. PAR	0.61 (0.27 to 1.69)	0.69 (0.15 to 3.13)	1.15 (0.71 to 1.88)	0.78 (0.51 to 1.18)
ESC vs. SER	0.71 (0.34 to 1.79)	0.77 (0.39 to 1.52)	0.77 (0.47 to 1.24)	0.88 (0.61 to 1.29)
ESC vs. VEN	0.63 (0.29 to 1.72)	0.71 (0.14 to 3.46)	0.71 (0.39 to 1.28)	0.74 (0.48 to 1.14)
FLUO vs. FLUV	0.40 (0.11 to 2.63)	0.60 (0.09 to 4.02)	0.60 (0.15 to 2.44)	0.83 (0.27 to 2.55)
FLUO vs. NEF	0.60 (0.29 to 1.45)	0.66 (0.28 to 1.56)	0.84 (0.38 to 1.86)	1.01 (0.52 to 1.98)
FLUO vs. PAR	0.69 (0.40 to 1.30)	0.73 (0.39 to 1.37)	0.73 (0.41 to 1.28)	0.85 (0.60 to 1.20)
FLUO vs. SER	0.81 (0.53 to 1.28)	0.82 (0.54 to 1.23)	0.82 (0.58 to 1.15)	0.97 (0.73 to 1.28)
FLUO vs. VEN	0.72 (0.42 to 1.33)	0.75 (0.42 to 1.35)	0.75 (0.46 to 1.22)	0.81 (0.59 to 1.11)
FLUV vs. NEF	0.79 (0.21 to 6.67)	IS	1.40 (0.29 to 6.80)	1.22 (0.34 to 4.35)
FLUV vs. PAR	0.93 (0.26 to 6.67)	1.61 (0.13 to 20.02)	IS	1.02 (0.33 to 3.20)
FLUV vs. SER	1.08 (0.31 to 7.69)	1.37 (0.23 to 8.11)	IS	1.17 (0.38 to 3.57)
FLUV vs. VEN	0.96 (0.27 to 7.14)	1.26 (0.05 to 35.00)	1.26 (0.30 to 5.32)	0.98 (0.31 to 3.05)
NEF vs. PAR	1.01 (0.47 to 2.70)	1.46 (0.47 to 4.51)	0.87 (0.35 to 2.15)	0.84 (0.42 to 1.68)
NEF vs. SER	1.16 (0.57 to 2.86)	1.23 (0.56 to 2.67)	0.98 (0.44 to 2.14)	0.95 (0.49 to 1.85)
NEF vs. VEN	1.04 (0.48 to 2.78)	0.84 (0.29 to 2.41)	0.90 (0.38 to 2.11)	0.80 (0.40 to 1.61)
PAR vs. SER	1.09 (0.63 to 2.04)	1.14 (0.71 to 1.84)	1.12 (0.65 to 1.93)	1.14 (0.81 to 1.61)
PAR vs. VEN	0.97 (0.52 to 2.04)	0.78 (0.36 to 1.70)	1.03 (0.54 to 1.96)	0.95 (0.63 to 1.43)
SER vs. VEN	0.87 (0.51 to 1.61)	0.92 (0.55 to 1.54)	0.92 (0.58 to 1.45)	0.84 (0.59 to 1.18)

Abbreviations: BUP = bupropion; CIT = citalopram; DES = desvenlafaxine; DUL = duloxetine; ESC = escitalopram; FLUO = fluoxetine; FLUV = fluvoxamine; IS = insufficient studies; MIR = mirtazapine; NA = not applicable; NEF = nefazodone; PAR = paroxetine; SER = sertraline; TRA = trazodone; VEN = velafaxine

Table E-5. Comparison of response for second-generation antidepressants for loop sub-network, by method of analysis: Odds ratios (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Logistic Regression
FLUO vs. PAR via SER	0.83 (0.64 to 1.11)	0.88 (0.19 to 4.02)	0.88 (0.44 to 1.76)	0.73 (0.51 to 1.05)
FLUO vs. PAR via placebo	Same as above	0.73 (0.39 to 1.37)	0.73 (0.41 to 1.28)	0.85 (0.60 to 1.20)
FLUO vs. SER via PAR	0.76 (0.61 to 0.96)	0.69 (0.26 to 1.83)	0.69 (0.34 to 1.37)	0.86 (0.64 to 1.16)
FLUO vs. SER via placebo	Same as above	0.82 (0.54 to 1.23)	0.82 (0.58 to 1.15)	0.97 (0.73 to 1.28)
PAR vs. SER via FLUO	0.90 (0.68 to 1.25)	0.71 (0.41 to 1.22)	0.71 (0.46 to 1.10)	0.73 (0.51 to 1.05)
PAR vs. SER via placebo	Same as above	1.14 (0.71 to 1.84)	1.12 (0.65 to 1.93)	1.14 (0.81 to 1.61)

Abbreviations: FLUO = fluoxetine; NA = not applicable; PAR = paroxetine; SER = sertraline

Table E-6. Comparison of response for second-generation antidepressants for one closed loop sub-network, by method of analysis: Odds ratios (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-regression	Bucher method	Logistic regression
BUP vs. CIT	0.74 (0.30 to 2.27)	NA	NA	0.94 (0.49 to 1.80)
BUP vs. ESC	0.91 (0.46 to 2.13)	NA	NA	0.95 (0.55 to 1.64)
BUP vs. FLUO	0.99 (0.65 to 1.61)	IS	IS	1.07 (0.81 to 1.40)
BUP vs. FLUV	0.78 (0.28 to 3.13)	NA	NA	1.18 (0.53 to 2.65)
BUP vs. MIR	1.32 (0.62 to 3.85)	IS	IS	1.10 (0.51 to 2.35)
BUP vs. PAR	0.83 (0.51 to 1.43)	IS	IS	0.89 (0.64 to 1.23)
BUP vs. SER	0.77 (0.52 to 1.18)	Direct	Direct	0.87 (0.67 to 1.13)
BUP vs. TRA	2.04 (1.02 to 4.76)	Direct	Direct	1.75 (0.96 to 3.18)
CIT vs. ESC	1.11 (0.63 to 2.17)	Direct	Direct	1.01 (0.61 to 1.68)
CIT vs. FLUO	1.09 (0.50 to 2.94)	IS	IS	1.14 (0.62 to 2.09)
CIT vs. FLUV	1.05 (0.58 to 2.08)	NA	NA	1.26 (0.71 to 2.21)
CIT vs. MIR	1.37 (0.44 to 7.14)	NA	NA	1.17 (0.45 to 3.07)
CIT vs. PAR	0.91 (0.40 to 2.56)	NA	NA	0.95 (0.50 to 1.79)
CIT vs. SER	0.84 (0.37 to 2.33)	NA	NA	0.93 (0.50 to 1.73)
CIT vs. TRA	2.08 (0.70 to 10.00)	NA	NA	1.86 (0.80 to 4.35)
ESC vs. FLUO	0.98 (0.53 to 1.92)	Direct	Direct	1.12 (0.69 to 1.82)
ESC vs. FLUV	0.85 (0.39 to 2.27)	IS	IS	1.24 (0.60 to 2.56)
ESC vs. MIR	1.22 (0.42 to 5.56)	NA	NA	1.15 (0.47 to 2.83)
ESC vs. PAR	0.81 (0.42 to 1.67)	IS	IS	0.93 (0.55 to 1.58)
ESC vs. SER	0.75 (0.40 to 1.54)	IS	IS	0.91 (0.55 to 1.52)
ESC vs. TRA	1.89 (0.70 to 7.14)	NA	NA	1.84 (0.85 to 3.98)
FLUO vs. FLUV	0.78 (0.31 to 2.86)	NA	NA	1.11 (0.51 to 2.40)
FLUO vs. MIR	1.27 (0.52 to 4.35)	NA	NA	1.03 (0.47 to 2.23)
FLUO vs. PAR via SER	0.83 (0.65 to 1.10)	IS	IS	0.83 (0.65 to 1.06)
FLUO vs. PAR via placebo	NA/same	0.73 (0.39 to 1.37)	0.73 (0.41 to 1.28)	NA/same
FLUO vs. SER	0.77 (0.63 to 0.96)	0.82 (0.54 to 1.23)	0.82 (0.58 to 1.15)	0.81 (0.67 to 1.00)
FLUO vs. TRA	1.96 (0.87 to 5.88)	NA	NA	1.64 (0.88 to 3.05)
MIR vs. PAR	0.50 (0.19 to 1.61)	NA	NA	0.81 (0.37 to 1.80)
MIR vs. SER	0.47 (0.18 to 1.43)	NA	NA	0.79 (0.36 to 1.73)
MIR vs. TRA	1.45 (0.91 to 2.50)	Direct	Direct	1.59 (0.92 to 2.76)
PAR vs. SER via FLUO	0.91 (0.68 to 1.27)	IS	IS	0.98 (0.75 to 1.28)
PAR vs. SER via placebo	NA/same	1.14 (0.71 to 1.84)	1.12 (0.65 to 1.93)	NA/same
PAR vs. TRA	2.33 (1.02 to 7.14)	NA	NA	1.97 (1.03 to 3.76)
SER vs. TRA	2.56 (1.16 to 7.14)	IS	IS	2.01 (1.08 to 3.75)

Abbreviations: BUP = bupropion; CIT = citalopram; ESC = escitalopram; FLUO = fluoxetine; FLUV = fluvoxamine; IS = insufficient studies; MIR = mirtazapine; NA = not applicable; PAR = paroxetine; SER = sertraline; TRA = trazodone

Table E-7. Comparison of response for second-generation antidepressants for ladder sub-network, by method of analysis: Odds ratios (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Logistic Regression
BUP vs. CIT	0.75 (0.28 to 2.56)	NA	NA	1.36 (0.72 to 2.58)
BUP vs. DUL	1.20 (0.58 to 2.94)	NA	NA	1.43 (0.90 to 2.28)
BUP vs. ESC	0.94 (0.41 to 2.44)	NA	NA	1.24 (0.76 to 2.03)
BUP vs. FLUO	1.20 (0.68 to 2.44)	NA	NA	1.25 (0.83 to 1.90)
BUP vs. FLUV	0.79 (0.26 to 3.57)	NA	NA	1.82 (0.82 to 4.03)
BUP vs. MIR	1.30 (0.56 to 3.57)	IS	0.67 (0.26 to 1.69)	1.38 (0.65 to 2.91)
BUP vs. PAR	1.10 (0.56 to 2.38)	NA	NA	1.22 (0.79 to 1.90)
BUP vs. SER	0.95 (0.68 to 1.39)	Direct	Direct	1.08 (0.77 to 1.51)
BUP vs. TRA	2.00 (0.99 to 5.00)	Direct	Direct	2.14 (1.18 to 3.86)
BUP vs. VEN	0.79 (0.47 to 1.45)	0.82 (0.38 to 1.79)	0.82 (0.51 to 1.34)	0.98 (0.65 to 1.48)
CIT vs. DUL	1.39 (0.74 to 3.13)	1.52 (0.23 to 10.02)	1.44 (0.78 to 2.64)	1.05 (0.64 to 1.74)
CIT vs. ESC	1.11 (0.63 to 2.27)	Direct	Direct	0.91 (0.56 to 1.47)
CIT vs. FLUO	1.32 (0.63 to 3.57)	NA	NA	0.92 (0.53 to 1.59)
CIT vs. FLUV	1.05 (0.58 to 2.17)	Direct	Direct	1.33 (0.76 to 2.33)
CIT vs. MIR	1.27 (0.41 to 7.14)	NA	NA	1.01 (0.41 to 2.47)
CIT vs. PAR	1.23 (0.61 to 3.03)	NA	NA	0.90 (0.53 to 1.53)
CIT vs. SER	0.95 (0.41 to 3.23)	NA	NA	0.79 (0.44 to 1.41)
CIT vs. TRA	1.96 (0.68 to 10.00)	NA	NA	1.57 (0.72 to 3.43)
CIT vs. VEN	0.83 (0.37 to 2.38)	NA	NA	0.72 (0.41 to 1.25)
DUL vs. ESC	0.79 (0.57 to 1.06)	Direct	Direct	0.86 (0.69 to 1.08)
DUL vs. FLUO	0.94 (0.61 to 1.56)	0.96 (0.58 to 1.60)	0.97 (0.64 to 1.45)	0.87 (0.64 to 1.20)
DUL vs. FLUV	0.66 (0.28 to 1.96)	NA	NA	1.27 (0.63 to 2.56)
DUL vs. MIR	0.92 (0.33 to 3.85)	NA	NA	0.96 (0.44 to 2.10)
DUL vs. PAR	0.88 (0.65 to 1.25)	Direct	Direct	0.85 (0.67 to 1.08)
DUL vs. SER	0.69 (0.37 to 1.52)	NA	NA	0.75 (0.52 to 1.09)
DUL vs. TRA	1.43 (0.57 to 5.26)	NA	NA	1.49 (0.78 to 2.86)
DUL vs. VEN	0.60 (0.36 to 1.11)	NA	NA	0.68 (0.49 to 0.96)
ESC vs. FLUO	1.18 (0.71 to 2.22)	NA	NA	1.01 (0.71 to 1.45)
ESC vs. FLUV	0.85 (0.37 to 2.38)	IS	0.94 (0.42 to 2.11)	1.47 (0.73 to 2.93)
ESC vs. MIR	1.15 (0.41 to 5.00)	NA	NA	1.11 (0.50 to 2.48)
ESC vs. PAR	1.10 (0.72 to 1.85)	1.16 (0.57 to 2.36)	1.09 (0.77 to 1.56)	0.99 (0.72 to 1.35)
ESC vs. SER	0.86 (0.44 to 2.13)	NA	NA	0.87 (0.58 to 1.31)
ESC vs. TRA	1.79 (0.69 to 7.14)	NA	NA	1.73 (0.88 to 3.38)
ESC vs. VEN	0.75 (0.42 to 1.56)	NA	NA	0.79 (0.54 to 1.15)
FLUO vs. FLUV	0.66 (0.25 to 2.22)	NA	NA	1.45 (0.70 to 2.99)
FLUO vs. MIR	0.97 (0.38 to 3.57)	NA	NA	1.10 (0.51 to 2.35)
FLUO vs. PAR	0.91 (0.66 to 1.30)	Direct	Direct	0.98 (0.75 to 1.27)
FLUO vs. SER	0.73 (0.45 to 1.32)	0.90 (0.47 to 1.71)	0.95 (0.62 to 1.45)	0.86 (0.64 to 1.16)
FLUO vs. TRA	1.49 (0.65 to 5.00)	NA	NA	1.71 (0.91 to 3.18)
FLUO vs. VEN	0.64 (0.47 to 0.87)	Direct	Direct	0.78 (0.65 to 0.94)
FLUV vs. MIR	1.08 (0.33 to 7.69)	NA	NA	0.76 (0.28 to 2.09)
FLUV vs. PAR	1.04 (0.43 to 3.45)	NA	NA	0.67 (0.33 to 1.38)
FLUV vs. SER	0.81 (0.29 to 3.57)	NA	NA	0.59 (0.28 to 1.26)
FLUV vs. TRA	1.67 (0.53 to 11.11)	NA	NA	1.18 (0.47 to 2.94)
FLUV vs. VEN	0.71 (0.27 to 2.70)	NA	NA	0.54 (0.26 to 1.12)
MIR vs. PAR	0.66 (0.24 to 2.56)	NA	NA	0.89 (0.41 to 1.92)
MIR vs. SER	0.57 (0.25 to 1.89)	NA	NA	0.78 (0.37 to 1.66)
MIR vs. TRA	1.45 (0.92 to 2.50)	Direct	Direct	1.55 (0.90 to 2.68)
MIR vs. VEN	0.48 (0.20 to 1.69)	NA	NA	0.71 (0.33 to 1.52)
PAR vs. SER	0.78 (0.45 to 1.59)	NA	NA	0.88 (0.63 to 1.24)
PAR vs. TRA	1.61 (0.67 to 5.88)	NA	NA	1.75 (0.92 to 3.31)
PAR vs. VEN	0.68 (0.44 to 1.11)	0.83 (0.50 to 1.38)	0.87 (0.60 to 1.25)	0.80 (0.60 to 1.08)
SER vs. TRA	2.04 (0.93 to 5.56)	IS	1.03 (0.46 to2.30)	1.99 (1.08 to 3.67)

Table E-7. Comparison of response for second-generation antidepressants for ladder sub-network, by method of analysis: Odds ratios (95% credible interval or 95% confidence interval) (continued)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Logistic Regression
SER vs. VEN	0.83 (0.55 to 1.30)	Direct	Direct	0.91 (0.68 to 1.21)
TRA vs. VEN	0.33 (0.14 to 0.99)	NA	NA	0.46 (0.25 to 0.86)

Abbreviations: BUP = bupropion; CIT = citalopram; DUL = duloxetine; ESC = escitalopram; FLUO = fluoxetine; FLUV = fluvoxamine; IS = insufficient studies; MIR = mirtazapine; NA = not applicable; PAR = paroxetine; SER = sertraline; TRA = trazodone; VEN = venlafaxine

Table E-8. Comparison of mean change in HAM-D for second-generation antidepressants for placebo star sub-network, by method of analysis: Weighted mean difference (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method
DES vs. DUL	-0.65 (-2.80 to 1.38)	-0.65 (-2.92 to 1.61)	-0.68 (-2.25 to 0.90)
DES vs. ESC	-1.20 (-4.10 to 1.75)	-1.23 (-5.06 to 2.61)	-1.23 (-2.97 to 0.51)
DES vs. FLUO	0.12 (-2.30 to 2.50)	0.72 (-4.27 to 5.71)	-0.27 (-5.19 to 4.64)
DES vs. PAR	-0.88 (-3.20 to 1.24)	-0.67 (-3.33 to 2.00)	-0.72 (-2.65 to 1.21)
DES vs. SER	-0.43 (-2.60 to 1.70)	-0.41 (-2.68 to 1.86)	-0.47 (-2.15 to 1.21)
DES vs. VEN	1.94 (-1.30 to 5.21)	1.92 (-3.05 to 6.89)	1.92 (-0.34 to 4.18)
DUL vs. ESC	-0.53 (-3.30 to 2.20)	-0.55 (-4.68 to 3.58)	-0.55 (-2.34 to 1.24)
DUL vs. FLUO	0.77 (-1.40 to 2.92)	1.15 (-3.45 to 5.76)	0.41 (-4.53 to 5.34)
DUL vs. PAR	-0.24 (-2.20 to 1.63)	-0.04 (-2.59 to 2.51)	-0.04 (-2.02 to 1.94)
DUL vs. SER	0.21 (-1.70 to 2.08)	0.20 (-2.00 to 2.39)	0.21 (-1.53 to 1.95)
DUL vs. VEN	2.59 (-0.50 to 5.69)	2.60 (-2.15 to 7.35)	2.60 (0.29 to 4.91)
ESC vs. FLUO	1.30 (-1.70 to 4.28)	0.91 (-49.15 to 50.98)	0.96 (-4.03 to 5.95)
ESC vs. PAR	0.30 (-2.60 to 3.04)	0.49 (-5.90 to 6.88)	0.51 (-1.60 to 2.62)
ESC vs. SER	0.75 (-2.10 to 3.54)	0.77 (-3.44 to 4.97)	0.76 (-1.13 to 2.65)
ESC vs. VEN	3.12 (-0.61 to 6.85)	IS	3.15 (0.73 to 5.57)
FLUO vs. PAR	-1.00 (-3.40 to 1.23)	-1.08 (-7.51 to 5.36)	-0.45 (-5.51 to 4.61)
FLUO vs. SER	-0.55 (-2.80 to 1.72)	-0.92 (-5.82 to 3.97)	-0.20 (-5.17 to 4.77)
FLUO vs. VEN	1.82 (-1.50 to 5.20)	2.24 (-48.69 to 53.16)	2.19 (-3.00 to 7.39)
PAR vs. SER	0.45 (-1.50 to 2.54)	0.24 (-2.46 to 2.93)	0.25 (-1.82 to 2.32)
PAR vs. VEN	2.83 (-0.29 to 6.11)	2.66 (-4.47 to 9.79)	2.64 (0.08 to 5.20)
SER vs. VEN	2.37 (-0.75 to 5.56)	2.38 (-2.49 to 7.26)	2.39 (0.01 to 4.77)

Abbreviations: DES = desvenlafaxine; DUL = duloxetine; ESC = escitalopram; FLUO = fluoxetine; IS = insufficient studies; PAR = paroxetine; SER = sertraline; VEN = venlafaxine

Table E-9. Comparison of mean change in HAM-D for second-generation antidepressants for loop sub-network, by method of analysis: Weighted mean difference (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Via
ESC vs. FLUO	-1.20 (-4.00 to 1.41)	0.91 (-49.15 to 50.98)	0.96 (-4.03 to 5.95)	Placebo
ESC vs. FLUO	-1.20 (-4.00 to 1.41)	IS	-4.74 (-8.11 to -1.36)	VEN
ESC vs. VEN	0.65 (-2.90 to 3.94)	IS	0.60 (-2.27 to 3.47)	FLUO
FLUO vs. VEN	1.87 (-0.90 to 4.77)	IS	-0.90 (-4.00 to 2.20)	ESC

Abbreviations: ESC = escitalopram; FLUO = fluoxetine; IS = insufficient studies; VEN = venlafaxine

Table E-10. Comparison of mean change in HAM-D for second-generation antidepressants for one closed loop sub-network, by method of analysis: Weighted mean difference (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Via
ESC vs. FLUO	-1.20 (-4.60 to 1.80)	0.91 (-49.15 to 50.98)	0.96 (-4.03 to 5.95)	placebo
ESC vs. FLUO	-1.20 (-4.00 to 1.41)	IS	-4.74 (-8.11 to -1.36)	VEN
ESC vs. SER	-1.10 (-4.70 to 2.18)	0.77 (-3.44 to 4.97)	0.76 (-1.13 to 2.65)	placebo
ESC vs. VEN	0.67 (-2.30 to 3.45)	IS	0.60 (-2.27 to 3.47)	FLUO
FLUO vs. PAR	0.04 (-2.90 to 3.24)	IS	-1.49 (-4.38 to 1.40)	TRA
FLUO vs. SER	0.04 (-3.00 to 3.06)	-0.92 (-5.82 to 3.97)	-0.20 (-5.17 to 4.77)	placebo
FLUO vs. VEN	1.85 (-0.50 to 4.31)	IS	-0.90 (-4.00 to 2.20)	ESC
FLUO vs. VEN	1.85 (-0.50 to 4.31)	2.24 (-48.69 to 53.16)	2.19 (-3.00 to 7.39)	placebo
TRA vs. VEN	0.93 (-2.90 to 4.61)	IS	3.59 (0.45 to 6.73)	FLUO

Abbreviations: ESC = escitalopram; FLUO = fluoxetine; FLUV = fluvoxamine; IS = insufficient studies; NA = not applicable; PAR = paroxetine; SER = sertraline; TRA = trazodone; VEN = venlafaxine

Table E-11. Comparison of mean change in HAM-D for second-generation antidepressants for ladder sub-network, by method of analysis: Weighted mean difference (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Via
BUP vs. VEN	1.04 (-3.50 to 5.14)	IS	-0.74 (-4.21 to 2.73)	SER
CIT vs. DUL	0.54 (-3.90 to 4.71)	IS	0.85 (-2.49 to 4.19)	ESC
ESC vs. PAR	-0.67 (-4.10 to 2.62)	0.26 (-5.51 to 6.03)	-0.35 (-3.17 to 2.47)	DUL
FLUO vs. SER	2.50 (-1.10 to 6.53)	1.66 (-31.65 to 34.98)	2.68 (-1.01 to 6.36)	VEN
PAR vs. VEN	2.99 (-0.74 to 6.23)	-4.13 (-12.41 to 4.15)	1.89 (-0.86 to 4.64)	FLUO

Abbreviations: BUP = bupropion; CIT = citalopram; DUL = duloxetine; ESC = escitalopram; FLUO = fluoxetine; IS = insufficient studies; NA = not applicable; PAR = paroxetine; SER = sertraline; VEN = venlafaxine

Table E-12. Comparison of ACR50 response for biologic DMARDs for placebo star sub-network, by method of analysis: Odds ratios (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Logistic Regression
ABA vs. ADA	0.59 (0.33 to 1.14)	0.67 (0.34 to 1.33)	0.64 (0.38 to 1.08)	0.83 (0.60 to 1.14)
ABA vs. ANA	1.15 (0.57 to 2.63)	1.32 (0.63 to 2.79)	1.32 (0.78 to 2.24)	1.82 (1.20 to 2.76)
ABA vs. ETA	0.17 (0.08 to 0.49)	0.21 (0.08 to 0.57)	0.21 (0.10 to 0.45)	0.41 (0.26 to 0.66)
ABA vs. GOL	0.49 (0.21 to 1.39)	0.59 (0.18 to 1.89)	0.57 (0.28 to 1.17)	0.76 (0.43 to 1.34)
ABA vs. INF	0.85 (0.48 to 1.72)	0.92 (0.49 to 2.29)	0.80 (0.47 to 1.38)	1.01 (0.75 to 1.35)
ABA vs. RIT	0.78 (0.36 to 2.00)	0.88 (0.34 to 1.53)	0.89 (0.49 to 1.60)	1.03 (0.64 to 1.67)
ABA vs. TOC	0.74 (0.42 to 1.49)	0.76 (0.38 to 2.44)	0.77 (0.48 to 1.25)	0.82 (0.60 to 1.13)
ADA vs. ANA	1.89 (0.99 to 4.00)	1.95 (0.82 to 4.61)	2.08 (1.12 to 3.83)	2.20 (1.49 to 3.26)
ADA vs. ETA	0.28 (0.13 to 0.77)	0.32 (0.12 to 0.84)	0.33 (0.15 to 0.75)	0.50 (0.32 to 0.78)
ADA vs. GOL	0.81 (0.36 to 2.13)	0.87 (0.27 to 2.82)	0.90 (0.41 to 1.97)	0.93 (0.53 to 1.59)
ADA vs. INF	1.39 (0.83 to 2.56)	1.42 (0.72 to 2.81)	1.26 (0.67 to 2.35)	1.22 (0.91 to 1.63)
ADA vs. RIT	1.27 (0.62 to 3.13)	1.30 (0.47 to 3.60)	1.39 (0.71 to 2.72)	1.25 (0.79 to 1.98)
ADA vs. TOC	1.20 (0.74 to 2.33)	1.20 (0.60 to 2.44)	1.21 (0.68 to 2.16)	1.00 (0.75 to 1.32)
ANA vs. ETA	0.14 (0.06 to 0.41)	0.16 (0.06 to 0.47)	0.16 (0.07 to 0.36)	0.23 (0.13 to 0.38)
ANA vs. GOL	0.39 (0.16 to 1.18)	0.45 (0.12 to 1.60)	0.43 (0.20 to 0.95)	0.42 (0.23 to 0.77)
ANA vs. INF	0.68 (0.36 to 1.49)	0.71 (0.31 to 1.63)	0.61 (0.32 to 1.13)	0.55 (0.37 to 0.82)
ANA vs. RIT	0.62 (0.27 to 1.72)	0.67 (0.22 to 1.97)	0.67 (0.34 to 1.31)	0.57 (0.33 to 0.96)
ANA vs. TOC	0.58 (0.32 to 1.32)	1.00 (0.45 to 2.21)	0.59 (0.33 to 1.04)	0.45 (0.31 to 0.67)
ETA vs. GOL	2.38 (0.90 to 8.33)	2.77 (0.72 to 10.62)	2.70 (1.05 to 6.96)	1.85 (0.98 to 3.51)
ETA vs. INF	4.17 (1.96 to 11.11)	4.34 (1.62 to 11.60)	3.78 (1.66 to 8.58)	2.45 (1.56 to 3.82)
ETA vs. RIT	3.85 (1.52 to 12.50)	4.15 (1.24 to 13.88)	4.18 (1.78 to 9.82)	2.50 (1.14 to 4.43)
ETA vs. TOC	3.57 (1.69 to 10.00)	3.63 (1.32 to 9.98)	3.65 (1.67 to 7.98)	2.00 (1.28 to 3.12)
GOL vs. INF	1.45 (0.68 to 4.17)	1.63 (0.51 to 5.20)	1.40 (0.63 to 3.08)	1.32 (0.77 to 2.28)
GOL vs. RIT	1.33 (0.53 to 4.76)	1.50 (0.24 to 4.93)	1.55 (0.68 to 3.53)	1.35 (0.70 to 2.60)
GOL vs. TOC	1.27 (0.59 to 3.70)	1.37 (0.38 to 1.97)	1.35 (0.64 to 2.86)	1.08 (0.63 to 1.86)
INF vs. RIT	0.88 (0.41 to 2.13)	0.93 (0.34 to 2.51)	1.11 (0.56 to 2.19)	1.02 (0.64 to 1.62)
INF vs. TOC	0.83 (0.50 to 1.56)	0.72 (0.38 to 1.38)	0.97 (0.54 to 1.74)	0.82 (0.62 to 1.08)
RIT vs. TOC	0.83 (0.41 to 2.13)	0.84 (0.26 to 2.77)	0.87 (0.46 to 1.65)	0.80 (0.51 to 1.26)

Abbreviations: ABA = abatacept; ADA = adalimumab; ANA = anakinra; ETA = etanercept; GOL = golimumab; INF = infliximab; RIT = rituximab; TOC = tocilizumab

Table E-13. Comparison of ACR50 response for biologic DMARDs for loop sub-network, by method of analysis: Odds ratios (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Logistic Regression
ABA vs. INF	0.92 (0.50 to 1.79)	0.90 (0.33 to 2.44)	0.77 (0.48 to 1.25)	0.82(0.60 to 1.13)

Abbreviations: ABA = abatacept; INF = infliximab

Table E-14. Comparison of ACR50 response for biologic DMARDs for one closed loop sub-network using Adalimumab, by method of analysis: Odds ratios (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Logistic Regression
ABA vs. ADA	0.62 (0.31 to 1.33)	0.67 (0.34 to 1.33)	0.64 (0.38 to 1.08)	0.83 (0.60 to 1.14)
ABA vs. INF	0.93 (0.51 to 1.89)	0.92 (0.49 to 2.29)	0.80 (0.47 to 1.38)	1.01 (0.75 to 1.35)
ADA vs. INF	1.39 (0.78 to 2.94)	1.42 (0.72 to 2.81)	1.26 (0.67 to 2.35)	1.22 (0.91 to 1.63)

Abbreviations: ABA = abatacept; ADA = adalimumab; INF = infliximab

Table E-15. Comparison of ACR50 response for biologic DMARDs for one closed loop sub-network using Etanercept, by method of analysis: Odds ratios (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Logistic Regression
ABA vs. ETA	0.19 (0.08 to 0.52)	0.21 (0.08 to 0.57)	0.21 (0.10 to 0.45)	0.41 (0.26 to 0.66)
ABA vs. INF	0.94 (0.56 to 1.67)	0.88 (0.34 to 2.29)	0.80 (0.47 to 1.38)	1.01 (0.75 to 1.35)
ETA vs. INF	4.17 (1.96 to 11.11)	4.34 (1.62 to 11.60)	3.78 (1.66 to 8.58)	2.45 (1.56 to 3.82)

Abbreviations: ABA = abatacept; ETA = etanercept; INF = infliximab

Table E-16. Comparison of ACR50 response for biologic DMARDs for ladder sub-network, by method of analysis: Odds ratios (95% credible interval or 95% confidence interval)

Comparison	Bayesian MTC	Meta-Regression	Bucher Method	Logistic Regression
ABA vs. ETA	0.19 (0.05 to 1.05)	NA	NA	0.79 (0.50 to 1.26)
ABA vs. INF	0.98 (0.38 to 3.45)	Direct	Direct	0.98 (0.65 to 1.47)
ETA vs. INF	4.00 (1.72 to 12.50)	4.34 (1.62 to 11.60)	3.78 (1.66 to 8.58)	1.24 (0.91 to 1.67)

Abbreviations: ABA = abatacept; ETA = etanercept; INF = infliximab

Appendix F: Distribution Plots from Simulation Study

For each of the scenarios in KQ3, the histograms below provide a graphical representation of the distribution of the probability of best treatment statistic.

Figure F-1. Distribution of best treatment probability: Star pattern, equivalent efficacy scenario

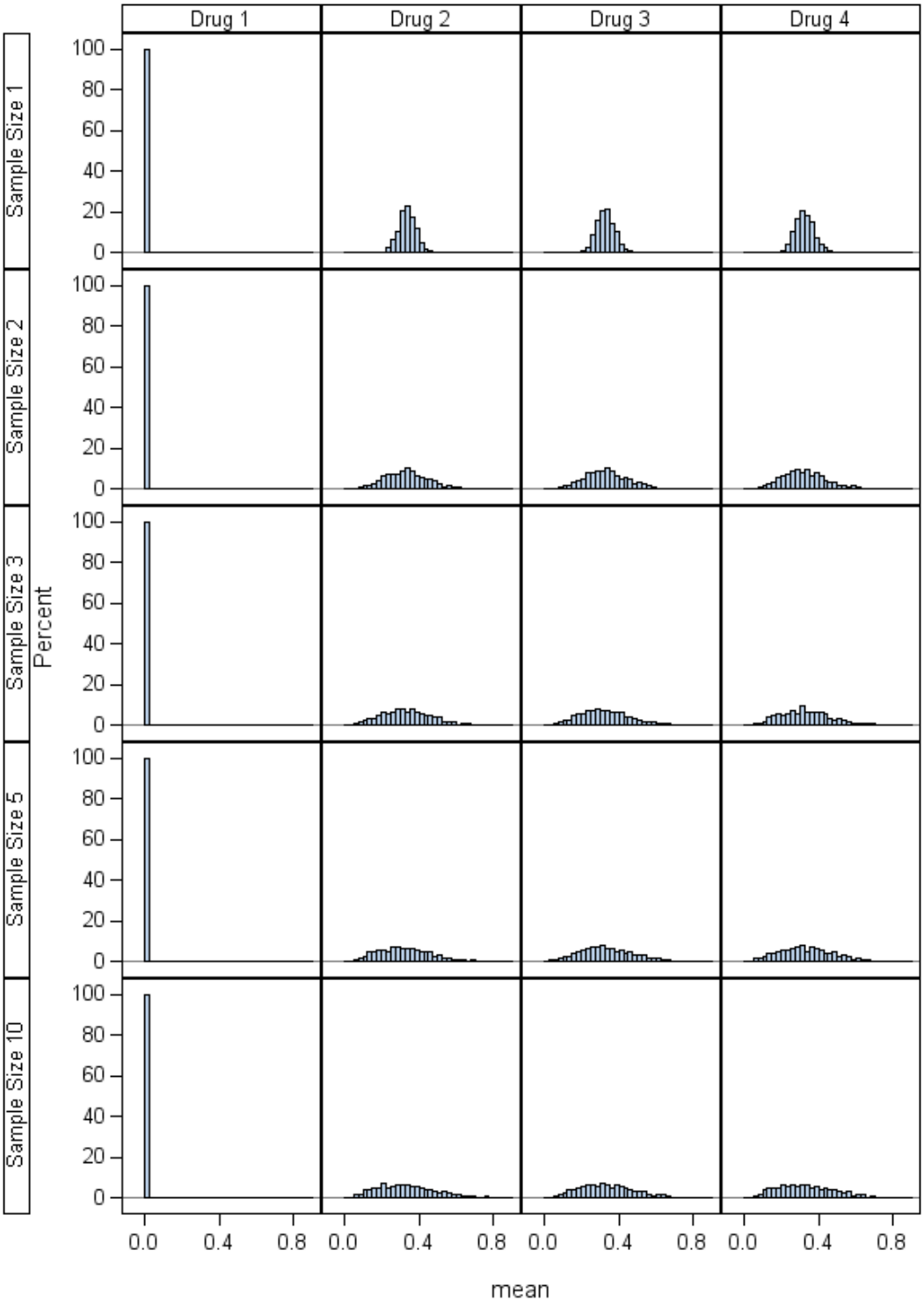


Figure F-2. Distribution of best treatment probability: Loop pattern, equivalent efficacy scenario

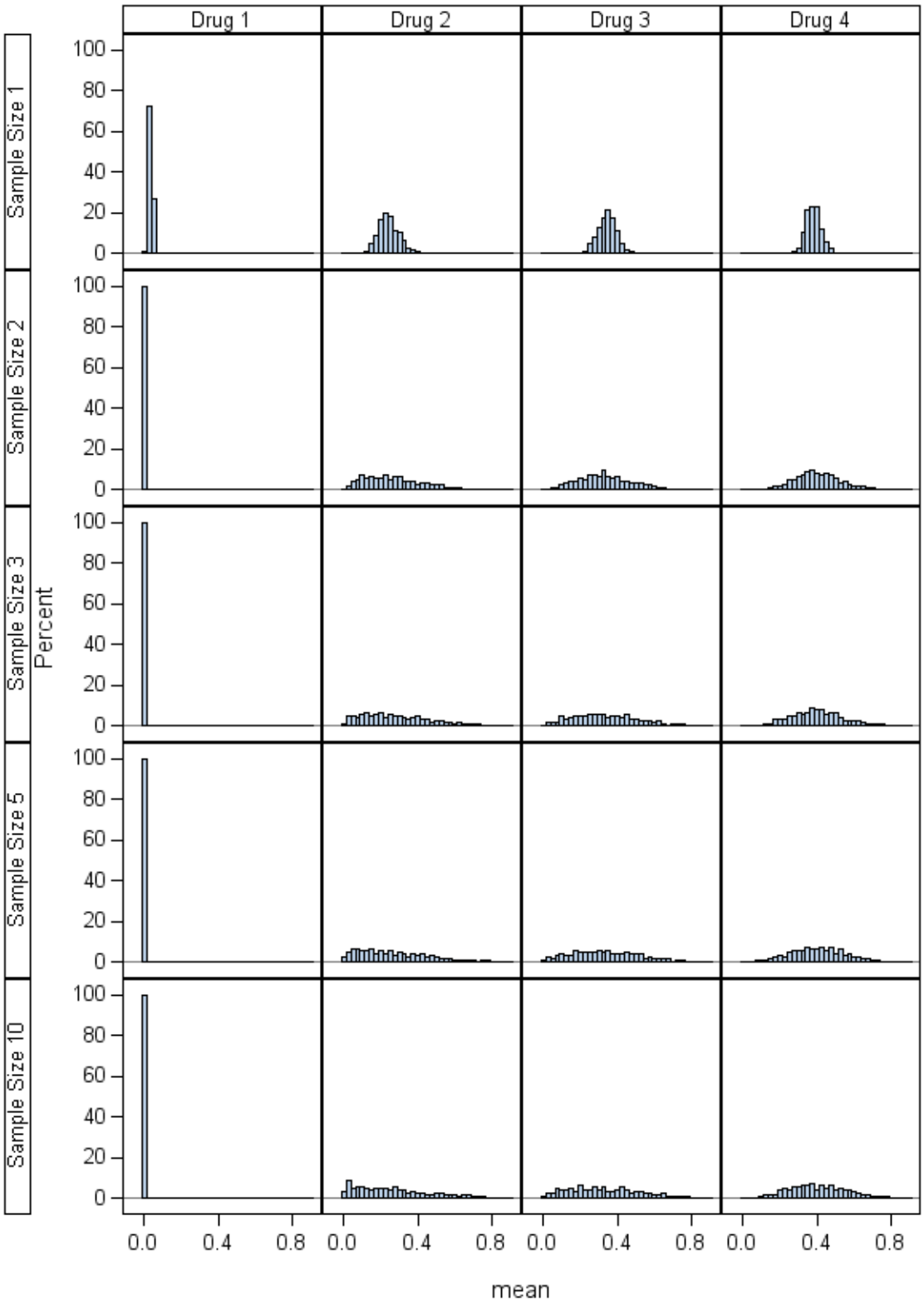


Figure F-3. Distribution of best treatment probability: One closed loop pattern, equivalent efficacy scenario

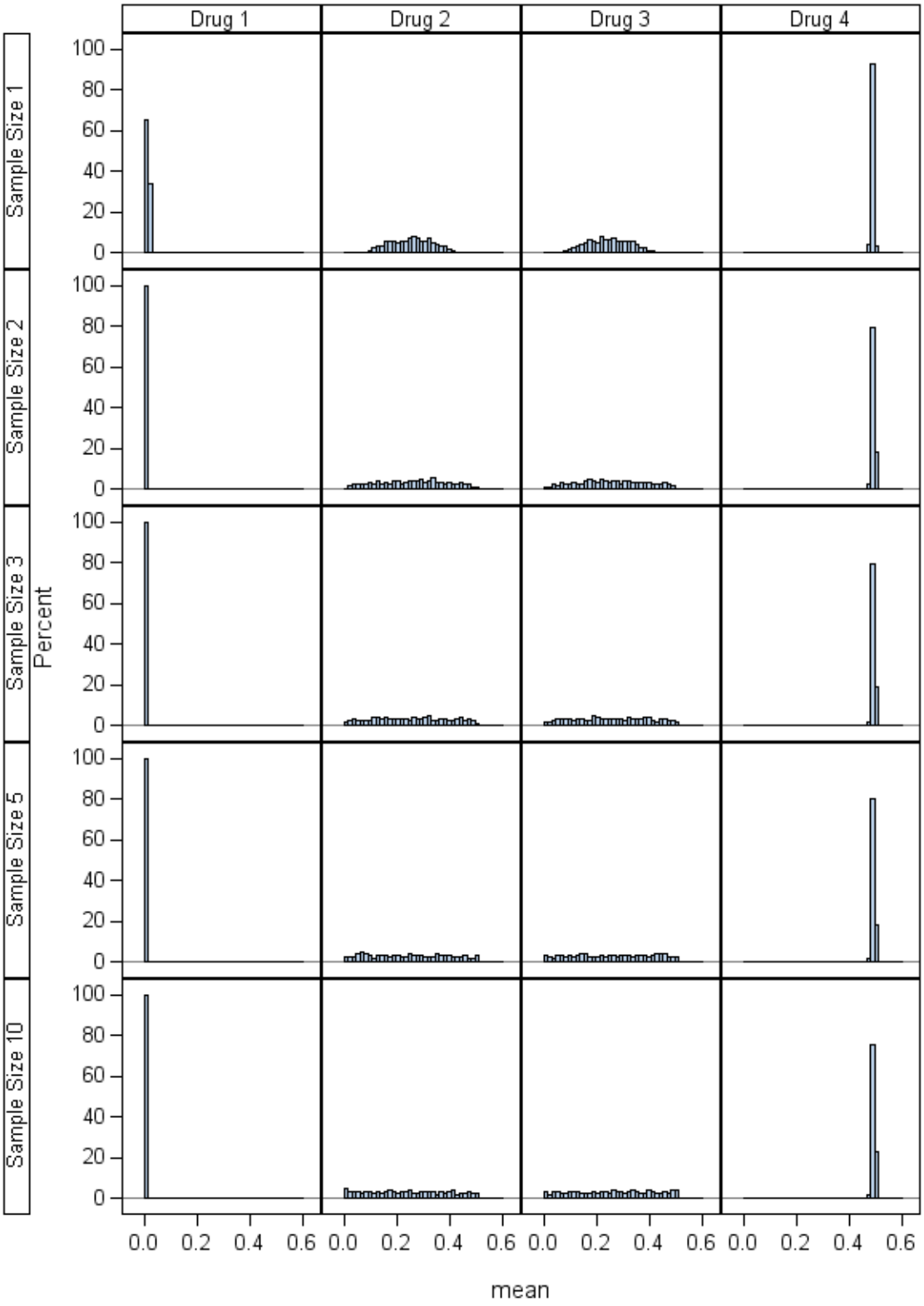


Figure F-4. Distribution of best treatment probability: Ladder pattern, equivalent efficacy scenario

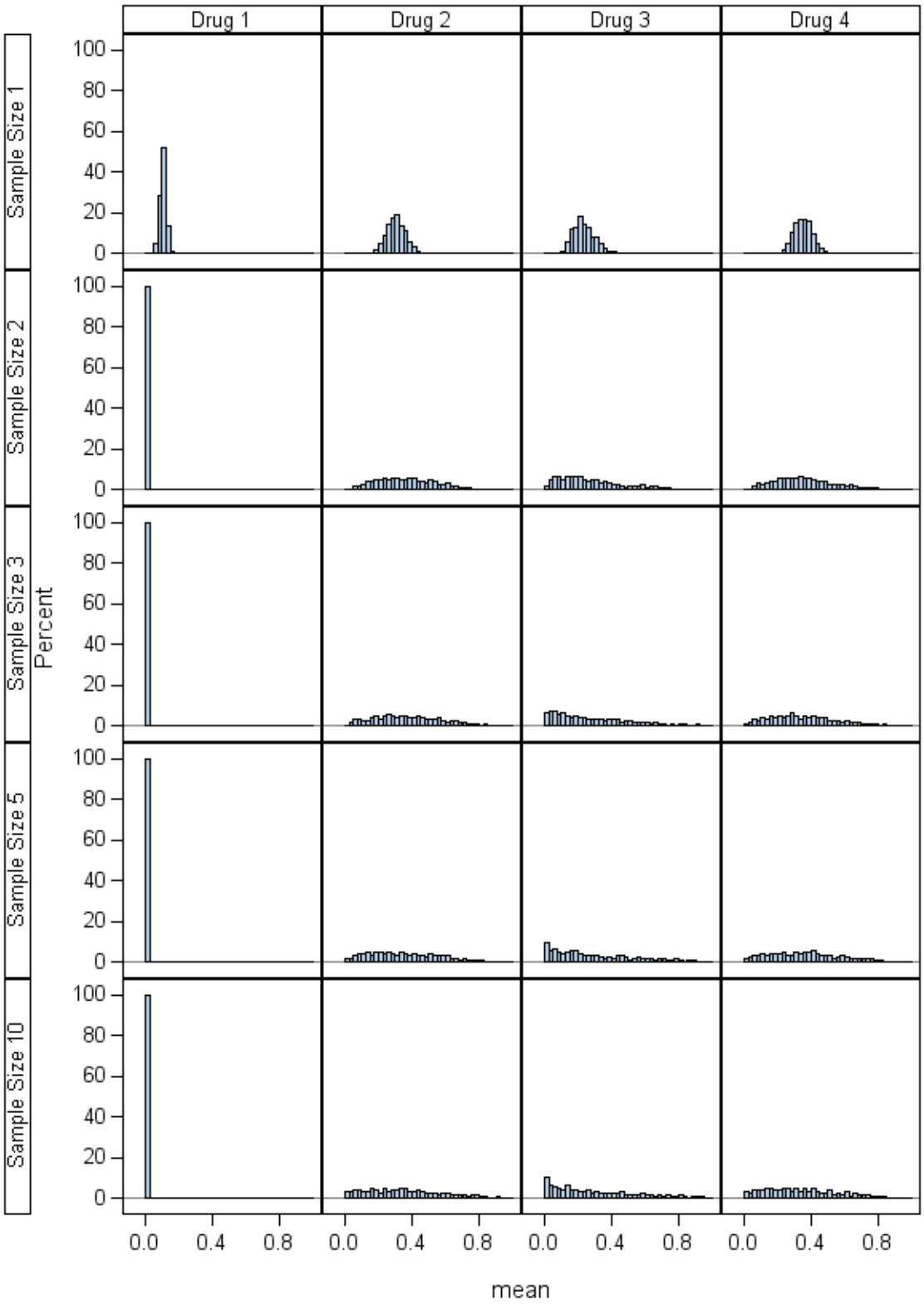


Figure F-5. Distribution of best treatment probability: Star pattern, superior efficacy scenario

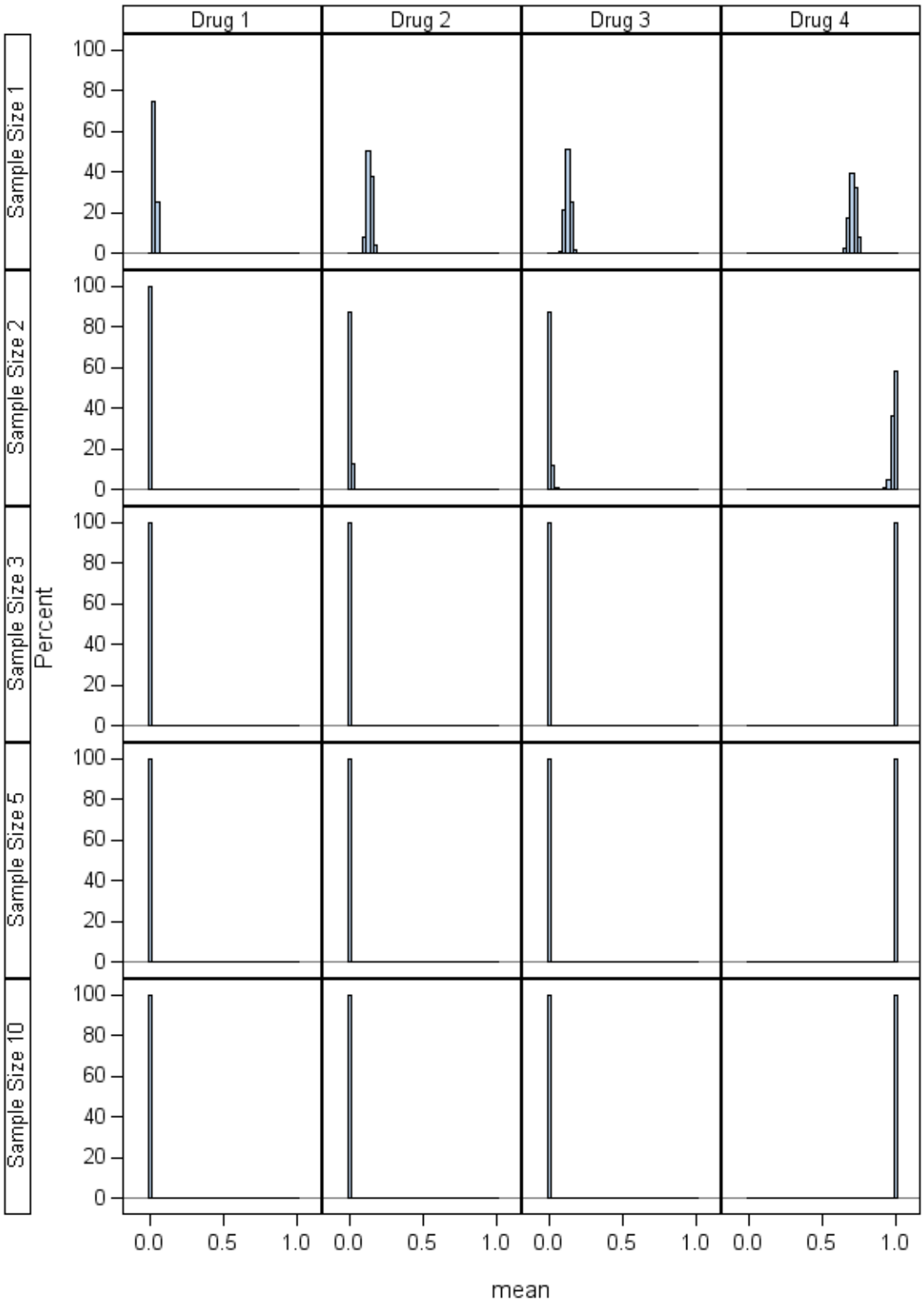


Figure F-6. Distribution of best treatment probability: Loop pattern, superior efficacy scenario

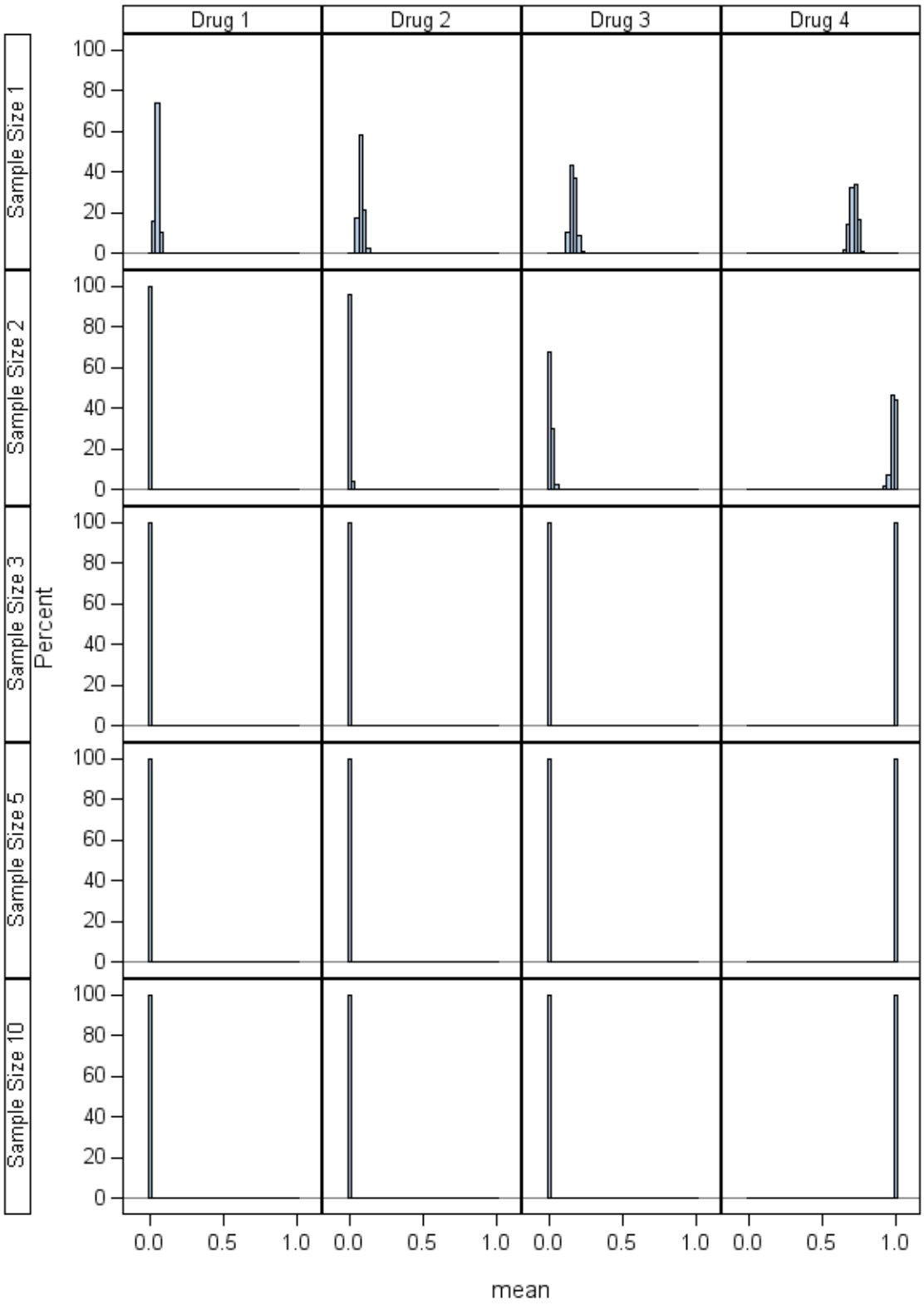


Figure F-7. Distribution of best treatment probability: One closed loop pattern, superior efficacy scenario

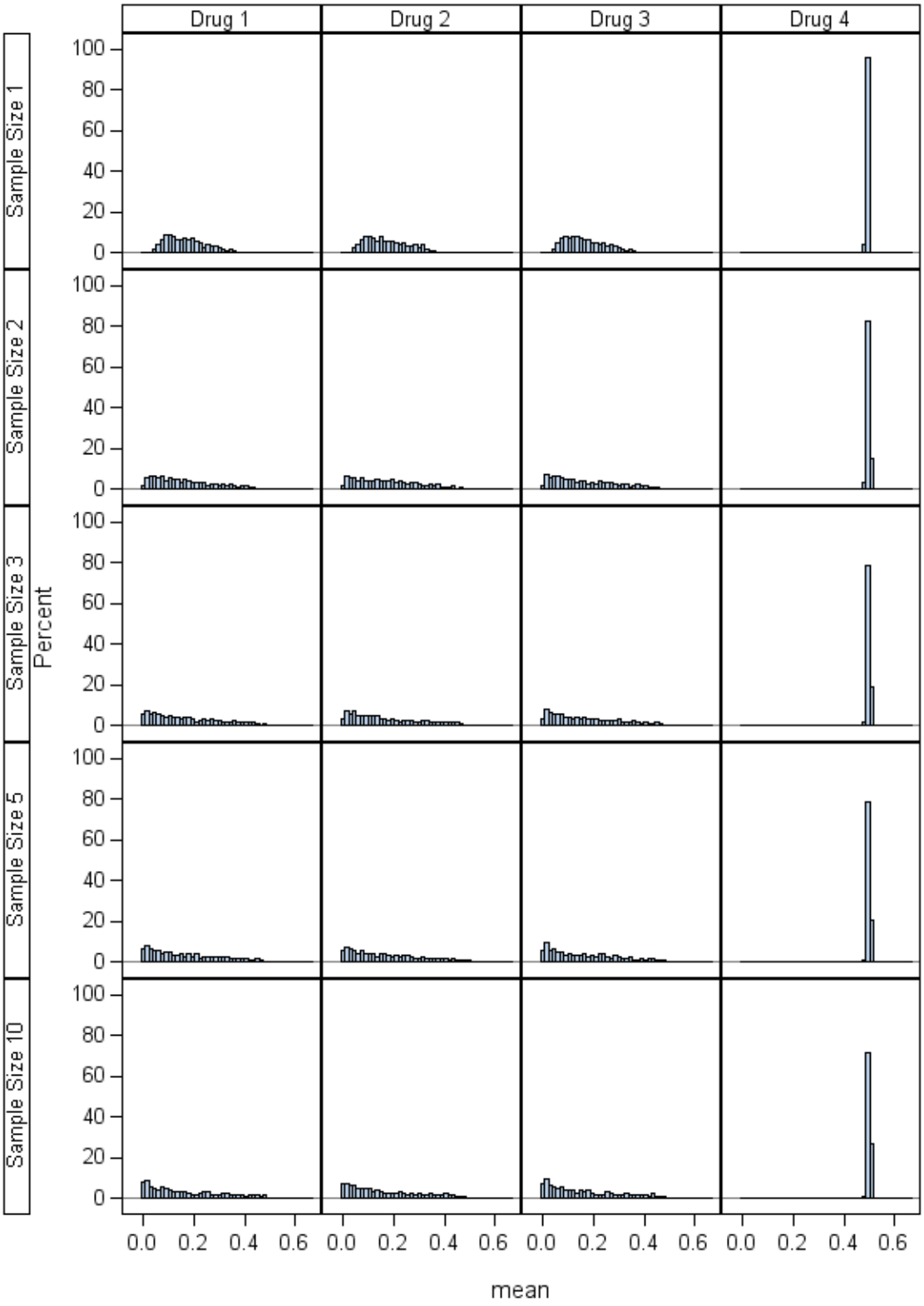
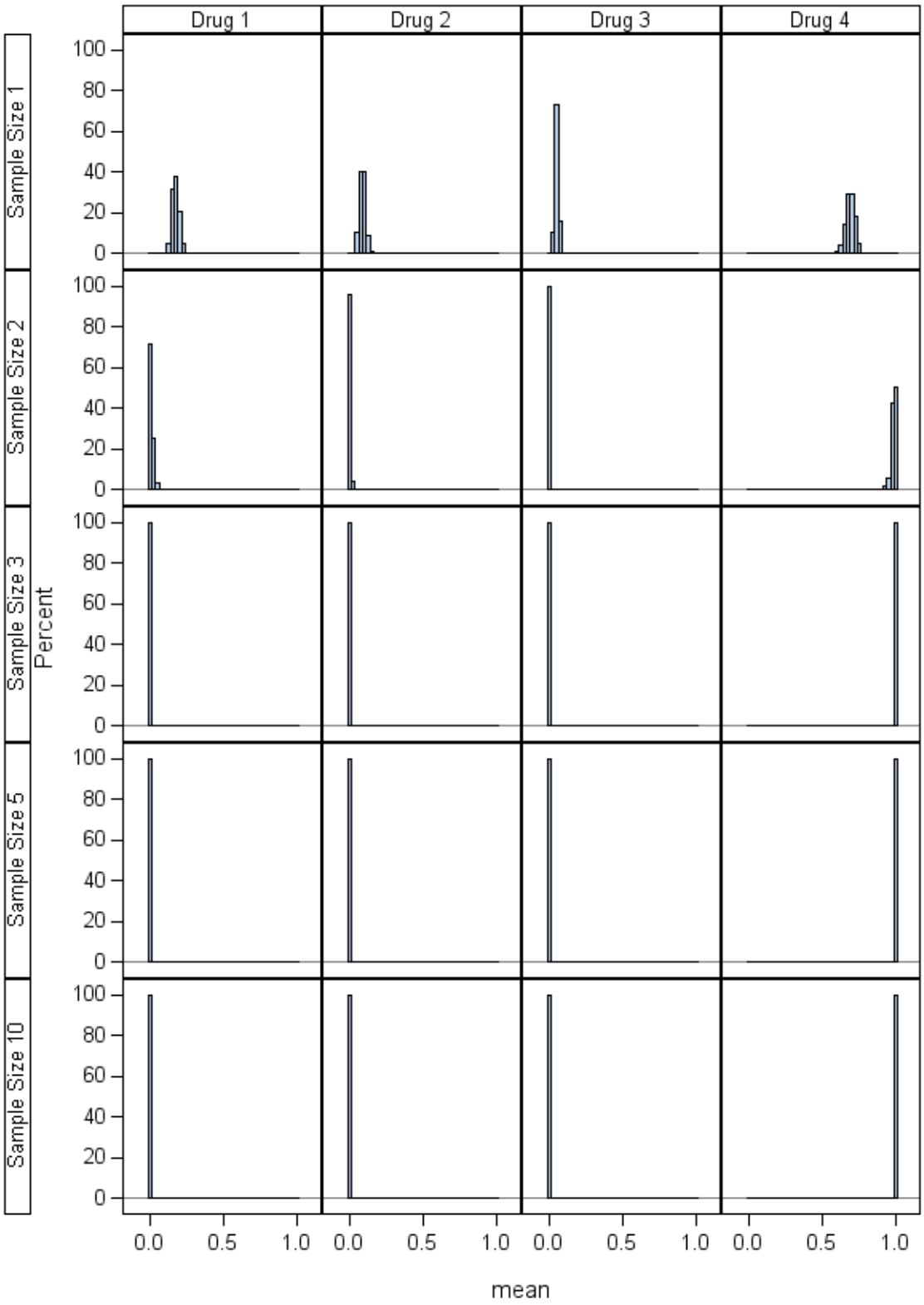



Figure F-8. Distribution of best treatment probability: Ladder pattern, superior efficacy scenario