Contents

File 1. Further explanation of network meta-analysis models incorporating treatment and dose effects

For any two doses b and k, with $b, k \in \{1, \dots, D\}$ that belong to any (common/different) treatment groups t_b, $t_k \in \{1, \dots, T\}$, and for a dichotomous outcome, we assume a binomial likelihood (**within-study level**):

$$r_{ik} \sim Bin(p_{ik}, n_{ik})$$

where p_{ik} is the probability of an event (success) in trial i for dose k.

Re-parameterizing the model (using dose b as the baseline dose for the ith study):

$$logit(p_{ik}) = \begin{cases} u_{ib}, & k = b \\ u_{ib} + \delta_{ibk}, & k > b \end{cases}$$

with u_{ib} as the log-odds of success of dose b in study i, and δ_{ibk} as the study-specific log-odds ratio of dose k relative to dose b in trial i.

Under the random-effects model, the study-specific δ_{ibk} are exchangeable and come from the same normal distribution with common mean dose-effect μ_{bk} for dose-comparison k vs. b and between-study variance (heterogeneity) τ_{bk}^2 (**between-study and within-dose level**):

$$\delta_{ibk} \sim N(\mu_{bk}, \tau_{bk}^2)$$

Assuming a common within-network heterogeneity, we have $\tau_{bk}^2 = \tau^2$.

Equal dose effects	Separate dose effects	Exchangeable dose effects
Consistency on treatment level and the dose level (model 1)	Consistency on dose level (model 2)	Consistency on the dose level, and exchangeable treatment effects within doses (model 3)
The mean dose effects μ_{bk} are fixed and within the same treatment group are identical in the sense that they are equally effective, so for $t = t_b = t_k$ we would have $\mu_{1k} = \mu_{1b}$, and hence $\mu_{bk} = 0$. Assuming $\lambda_{t_b t_k}$ the overall treatment effect between t_b and t_k treatment groups then $\mu_{bk} = \begin{cases} \lambda_{t_b t_k}, & t_b \neq t_k \\ 0, & t = t_b = t_k \end{cases}$ Consistency is assumed on the on the dose-level, and this is also assumed at the treatment level because all doses within the same treatment are assumed to be equally effective. Suppose treatment 1 is the reference treatment, then: $\lambda_{t_b t_k} = \lambda_{1 t_k} - \lambda_{1 t_b}$	The mean dose effects μ_{bk} follow the consistency assumption as: $\mu_{bk} = \mu_{1k} - \mu_{1b}$ with $\mu_{11} = 0$. This is simply the conventional consistency model for network meta-analysis, but where each treatment-dose combination is treated as a different treatment-group (node in the network).	The mean dose effects μ_{bk} are assumed exchangeable from the same distribution with a common mean the overall treatment effect between t_b and t_k treatment groups, $\lambda_{t_b t_k}$, and variance *the between-dose variance*, $\sigma^2_{t_b t_k}$. Assuming a common *between-dose variance* across the network, we have $\sigma^2_{t_b t_k} = \sigma^2$ (between-dose and within-treatment level). Assuming consistent mean dose effects μ_{bk}, we have (*consistency on the dose-level*): $\mu_{bk} = \mu_{1k} - \mu_{1b}$ The exchangeable dose effects

with $\lambda_{11} = 0$.		model further assumes that $\mu_{1k} = \lambda_{t_1 t_k} + var_j$ $\mu_{1b} = \lambda_{t_1 t_b} + var_j$ $var_j \sim N(0, \sigma^2)$ with $\lambda_{t_1 t_1} = 0$ For $\sigma^2 = 0$ the model simplifies to the equal dose effects model because then all doses within the same treatment are assumed equally effective.

File 2. Network meta-analysis model fit and estimation

Posterior distributions were obtained form 100,000 iterations to ensure model convergence, which was checked by visual inspection of the mixing of two Markov chains, following 10,000 burn-in iterations. To warrant an independent sample from the posterior distributions of the parameters of interest, we considered a thinning parameter of 10 on the resulting Markov chains. We considered vague normal prior distributions ($N(0,10000)$) for all location and nuisance parameters. For each model, we assumed common between-study variance across dose comparisons (τ^2), which was clinically meaningful due to the nature of treatments, and common between-dose variance across treatments (σ^2) to increase power in the precision of parameter estimation - we borrowed strength across the network as there were few dose groups (range 2 to 3) included in each treatment. For each example, we modelled between-study variance using the informative prior suggested by Turner et al. [1] for semi-objective outcomes ($\tau^2 \sim LogN(-3.02, 1.85^2)$). A half-normal prior ($\sigma \sim N(0,1), \sigma > 0$) was assumed for the between-dose variance. We used an informative prior for the between-study variance and not the between-dose variance because we expected that the priors obtained by Turner et al.[1] on the treatment level would be different from a prior distribution on the dose level. Priors obtained by Turner et al.[1] on the treatment level were derived from data without dose information; however, we expect that incorporating dose information would narrow prior distributions (by providing greater information about treatment-dose effects) so priors obtained by Turner et al. likely represent a conservative prior distribution for the between-study variance parameter in our random dose effects models. We compared the between-study variance with the relevant distribution by Turner et al.[1] to infer on the magnitude of heterogeneity.

We compared dose effects models using five approaches: 1) visually in forest plots, assessing the degree of overlap in confidence intervals; 2) model fit and parsimony using the deviance information criterion (DIC; difference of ≥3 is considered significant)[2]; 3) treatment-dose ranking according to the surface under the cumulative ranking curve (SUCRA)[3 4]; 4) variability due to between-study and between-dose heterogeneity; and 5) local inconsistency at the treatment and dose levels using the loop-specific approach (i.e. Bucher method for each closed loop separately) and global inconsistency on the treatment level using the design-by-treatment interaction model.[5 6] We applied fixed inconsistency terms in the design-by-treatment interaction model and added all inconsistency terms to the same inconsistency model at the same time.[5] For the treatment level assessment of consistency, we collapsed all doses to their parent treatment and we applied the model proposed by Dias et al., as our base model.[7] For the dose level assessment of consistency, we applied the separate dose effects model (i.e. model 2) as our base model.

File 3. OpenBUGS code

```
#ns: number of studies
#nc: number of treatments
#nt: number of doses
#t: dose code per study arm
#na: number of doses per study
#nat: number of treatments per study arm
#r: number of events per study arm
#n: sample size per study arm
#ref: reference treatment (codes assume ref=1 is placebo [with a single dose] and require
modification if this is not the case)
#tau.sq=between-study variance within dose-level
#sigma.sq=between-dose variance within treatment-level

##### The following part of the code is common in all models #####
model{
        for(i in 1:ns) {
         w[i,1] <-0
                delta[i,t[i,1]]<-0
##prior distribution for log-odds in baseline arm of study i
                u[i] ~ dnorm(0,.001)
##binomial likelihood of number of events for each arm k of study i
                for (k in 1:na[i])  {
                        r[i,t[i,k]] ~ dbin(p[i,t[i,k]],n[i,t[i,k]])
                }
##parameterization of the 'true' effect of each comparison
##of arm k vs. baseline arm (1) of study i
                logit(p[i,t[i,1]])<-u[i]
         for (k in 2:na[i]) {
                        logit(p[i,t[i,k]])<-u[i] + delta[i,t[i,k]]
##distribution of random effects
                        delta[i,t[i,k]] ~ dnorm(md[i,t[i,k]],precd[i,t[i,k]])
                        precd[i,t[i,k]] <- prec *2*(k-1)/k
##assumption of consistency on the dose level (mu in File 1)
      md[i,t[i,k]]<- d[t[i,k]] - d[t[i,1]] + sw[i,k]
      w[i,k]<- delta[i,t[i,k]] - d[t[i,k]] + d[t[i,1]]
      sw[i,k]<- sum(w[i,1:k-1])/(k-1)
        }
        }

##prior for between-study variance
  #tau~dnorm(0,1)I(0,) #minimally informative prior
  #tau.sq<-pow(tau,2)
  tau.sq~dlnorm(-3.02,0.29) #stroke, nausea, headache (informative prior)
        prec<-1/tau.sq
```

```
        var <-1/prec
```
For equal dose effects use the following part of the code #####

```
##dose effect and treatment effect are zero for reference treatment (here we assume ref=1 [placebo])
        d[ref]<-0  # estimated LOR for each dose-comparison vs. reference treatment-dose (mu in File 1)
        D[ref]<-0 # estimated LOR for each treatment-comparison vs. reference treatment (lambda in File 1)

        for(k in 1:(ref-1)){
                for(j in class[k]:(class[k+1]-1)){
                        d[j]<- D[k]
                }
        }

        for(k in (ref+1):nc){
                for(j in class[k]:(class[k+1]-1)){
                        d[j]<- D[k]
                }
        }

## Vague priors for treatment effects (basic parameters)
        for(k in 1:(ref-1)){
                D[k] ~ dnorm(0,.0001)
        }
        for(k in (ref+1):nc){
                D[k] ~ dnorm(0,.0001)
        }

##estimated & predictive OR for each treatment-comparison
                for(i in 1:(nc-1)) {
                        for (j in (i+1):nc) {
                                OR[j,i]<- exp(D[j] - D[i])
                                LOR[j,i]<- D[j] - D[i]
                                predLOR[j,i] ~ dnorm(LOR[j,i],prec)
                                predOR[j,i]<- exp(predLOR[j,i])
                        }
                }

##treatment ranking
        for(k in 1:nc) {
                order[k]<- rank(D[],k) #harmful outcome <- t+1-rank (d[],k) when beneficial outcome
                most.effective[k]<-equals(order[k],1)
                for(j in 1:nc) {effectiveness[k,j]<- equals(order[k],j)
```

```
            cumeffectiveness[k,j]<- sum(effectiveness[k,1:j])}}

##SUCRA
        for(k in 1:nc) {
            SUCRA[k]<- sum(cumeffectiveness[k,1:(nc-1)]) /(nc-1)
        }

#################################################################
```
For separate dose effects use the following part of the code

```
##Independent dose-effects (not related with their parent treatments) (mu in File 1)
        d[ref]<-0
        for (k in 1:(ref-1)){
            d[k] ~ dnorm(0,.0001)
            }

        for (k in (ref+1):nt){
            d[k] ~ dnorm(0,.0001)
            }


##estimated & predicted OR for each treatment-comparison
        for(i in 1:(nc-1)) {
            for (j in (i+1):nc) {
                OR[j,i]<- exp(mean(d[class[j]:(class[j+1]-1)]) -
mean(d[class[i]:(class[i+1]-1)]))
                LOR[j,i]<- mean(d[class[j]:(class[j+1]-1)])  -  mean(d[class[i]:(class[i+1]-
1)])
                predLOR[j,i] ~ dnorm(LOR[j,i],prec)
                predOR[j,i]<- exp(predLOR[j,i])
            }
        }

##estimated & predicted OR for each dose-comparison
        for(i in 1:(nt-1)) {
            for (j in (i+1):nt) {
                OR.dose[j,i]<- exp(d[j] - d[i])
                LOR.dose[j,i]<- d[j] - d[i]
                predLOR.dose[j,i] ~ dnorm(LOR.dose[j,i],prec)
                predOR.dose[j,i]<- exp(predLOR.dose[j,i])
            }
        }

#dose ranking
        for(k in 1:nt) {
```

```
            order[k]<- rank(d[],k) #harmful outcome <- t+1-rank (d[],k) when beneficial
outcome
            most.effective[k]<-equals(order[k],1)
            for(j in 1:nt) {effectiveness[k,j]<- equals(order[k],j)
            cumeffectiveness[k,j]<- sum(effectiveness[k,1:j])}}
##SUCRA
      for(k in 1:nt) {
            SUCRA[k]<- sum(cumeffectiveness[k,1:(nt-1)]) /(nt-1)
      }

#################################################################
```
For exchangeable dose effects use the following part of the code #####

```
##dose effect and treatment effect are zero for reference treatment  (here we assume ref=1
[placebo])
      d[ref]<-0 # estimated LOR for each dose-comparison vs. reference treatment-dose (mu in
File 1)
      D[ref]<-0 # estimated LOR for each treatment-comparison vs. reference treatment
(lambda in File 1)

      for(k in 1:(ref-1)){
            for(j in class[k]:(class[k+1]-1)){
                  d[j]<- D[k]+var[j]
            }
      }
      for(k in (ref+1):nc){
            for(j in class[k]:(class[k+1]-1)){
                  d[j]<- D[k]+var[j]
            }
      }

      ##no between-dose variance for the reference treatment
      var[ref]<-0
      for(k in 2:nt){
            var[k] ~ dnorm(0,sigma.prec)
      }
      ##between-dose variance
      sigma~dnorm(0,1)I(0,)
      sigma.sq<-pow(sigma,2)
      sigma.prec<-1/sigma.sq
      sigma.var<-1/sigma.prec

      ##vague priors for treatment effects (basic parameters)
      for(k in 1:(ref-1)){
            D[k] ~ dnorm(0,.0001)
      }
```

```
        for(k in (ref+1):nc){
                D[k] ~ dnorm(0,.0001)
        }

##estimated & predictive OR for each treatment-comparison
                for(i in 1:(nc-1)) {
                        for (j in (i+1):nc) {
                                OR[j,i]<- exp(D[j] - D[i])
                                LOR[j,i]<- D[j] - D[i]
                                predLOR[j,i] ~ dnorm(LOR[j,i],prec)
                                predOR[j,i]<- exp(predLOR[j,i])
                        }
                }

##estimated & predicted OR for each dose-comparison
        for(i in 1:(nt-1)) {
                for (j in (i+1):nt) {
                        OR.dose[j,i]<- exp(d[j] - d[i])
                        LOR.dose[j,i]<- d[j] - d[i]
                        predLOR.dose[j,i] ~ dnorm(LOR.dose[j,i],prec)
                        predOR.dose[j,i]<- exp(predLOR.dose[j,i])
                }
        }

#Ranking of treatment-doses#
        for(k in 1:nt) {
                order[k]<- rank(d[],k)  #harmful outcome <- t+1-rank (d[],k) when beneficial
outcome
                most.effective[k]<-equals(order[k],1)
                for(j in 1:nt) {effectiveness[k,j]<- equals(order[k],j)
                cumeffectiveness[k,j]<- sum(effectiveness[k,1:j])}}

##SUCRA
        for(k in 1:nt) {
                SUCRA[k]<- sum(cumeffectiveness[k,1:(nt-1)]) /(nt-1)
        }

############################################################
##### The following part of the code is common in all models #####

##model fit
        for(i in 1:ns) {
                for (k in 1:na[i]) {
                        Darm[i,k]<- -2*( r[i,t[i,k]] *log(n[i,t[i,k]]*p[i,t[i,k]]/ r[i,t[i,k]])+(n[i,t[i,k]]
-                       r[i,t[i,k]])*log((n[i,t[i,k]]-n[i,t[i,k]]* p[i,t[i,k]])/(n[i,t[i,k]]- r[i,t[i,k]])))
                }
```

```
            Dsumarm[i]<- sum(Darm[i,1:na[i]])
        }
        D.bar<- sum(Dsumarm[])
}
```

Table 1. Number of patients experiencing at least one cerebrovascular event per treatment dose (arm-level data)

ID	Author, Year	Placebo	Quetiapine		Olanzapine		Risperidone	
			Low	Medium	Low	Medium	Low	Medium
1	RIS-BEL-14[8]					1/20		0/19
2	Zhong, 2007[9]	1/92	1/124	1/117				
3	Schneider, 2006[10]	1/142	1/94			2/100	1/85	
4	Tariot, 2006[11]	3/125	2/124					
5	Mintzer, 2006[12]	1/238						4/235
6	Kennedy, 2005[13]	1/90				3/178		
7	Deberdt, 2005[14]	0/94				5/204		4/196
8	Brodaty, 2003[15]	3/170					15/167	
9	De Deyn, 1999[16]	2/114						9/115
10	HGAO[17]	1/118			0/118			

Table 2. Assessment of transitivity at the treatment level: cerebrovascular events

Treatment Comparison	No. of Studies (No. of Patients)	Age (years)	Female Sex	Study Setting	Study Duration (weeks)	Type of Dementia	Severity of Dementia	RoB: Missing Data	RoB: Randomization Procedure
Olanzapine vs. placebo	4 (1048)	70-79.9	≥50%	Home/ community/ LTC/ assisted living	13-30	AD	Unclear	Unclear risk	High risk
Olanzapine vs. quetiapine	1 (194)	70-79.9	≥50%	Home/ community/ assisted living	>30	AD	Mild/ moderate/ severe	Low risk	High risk
Olanzapine vs. risperidone	3 (628)	70-79.9	≥50%	Home/ community/ LTC/ assisted living	13-30	Multiple	Unclear	Unclear risk	High risk
Quetiapine vs. placebo	3 (818)	≥80	≥50%	LTC	13-30	Multiple	Unclear	Unclear risk	High risk
Quetiapine vs. risperidone	1 (179)	70-79.9	≥50%	Home/ community/ assisted living	>30	AD	Mild/ moderate/ severe	Low risk	High risk
Risperidone vs. placebo	5 (1558)	≥80	≥50%	Home/ community/ LTC/ assisted living	<13	Multiple	Unclear	Low risk	High risk

Abbreviations: Alzheimer disease (AD), long-term care (LTC), risk of bias (RoB)

Table 3. Assessment of transitivity at the dose level: cerebrovascular events

Treatment Dose Comparison	No. of Studies (No. of Patients)	Age (years)	Female Sex	Study Setting	Study Duration (weeks)	Type of Dementia	Severity of Dementia	RoB: Missing Data	RoB: Randomization Procedure
Olanzapine, low vs. placebo	1 (238)	70-79.9	≥50%	Outpatient	<13	AD	Unclear	Not reported	Not reported
Olanzapine, medium vs. placebo	3 (810)	70-79.9	≥50%	Home/ community/ assisted living	13-30	AD	Mild/ moderate/ severe	Unclear risk	High risk
Olanzapine, medium vs. quetiapine, low	1 (194)	70-79.9	≥50%	Home/ community/ assisted living	>30	AD	Mild/ moderate/ severe	Low risk	High risk
Olanzapine, medium vs. risperidone, low	1 (185)	70-79.9	≥50%	Home/ community/ assisted living	>30	AD	Mild/ moderate/ severe	Low risk	High risk
Olanzapine, medium vs. risperidone, medium	2 (443)	70-79.9	≥50%	LTC/ assisted living	<13	Multiple	Unclear	Unclear risk	High risk
Quetiapine, low vs. placebo	3 (701)	≥80	≥50%	LTC	13-30	Multiple	Unclear	Unclear risk	High risk
Quetiapine, low vs. quetiapine, medium	1 (241)	≥80	≥50%	LTC	<13	Multiple	Unclear	Unclear risk	High risk
Quetiapine, low vs. risperidone, low	1 (179)	70-79.9	≥50%	Home/ community/ assisted living	>30	AD	Mild/ moderate/ severe	Low risk	High risk
Quetiapine, medium, vs. placebo	1 (209)	≥80	≥50%	LTC	<13	Multiple	Unclear	Unclear risk	High risk
Risperidone, low vs. placebo	2 (564)	≥80	≥50%	Home/ community/ assisted living	13-30	Multiple	Mild/ moderate/ severe	Low risk	High risk
Risperidone, medium vs. placebo	3 (994)	≥80	≥50%	LTC/ assisted living/ clinic	<13	Multiple	Unclear	Unclear risk	High risk

Abbreviations: Alzheimer disease (AD), long-term care (LTC), risk of bias (RoB)

Table 4a. Results of equal dose effects network meta-analysis model (model #1): cerebrovascular events

Comparison	*Odds Ratio*	*95% CrI*	*95% PrI*
Olanzapine vs. Placebo	3.18	1.12 to 9.52	0.97 to 10.75
Quetiapine vs. Placebo	0.90	0.22 to 3.6	0.2 to 4.01
Quetiapine vs. Olanzapine	0.28	0.05 to 1.44	0.05 to 1.58
Risperidone vs. Placebo	3.59	1.71 to 8.03	1.42 to 9.43
Risperidone vs. Olanzapine	1.13	0.42 to 3.01	0.37 to 3.47
Risperidone vs. Quetiapine	3.97	0.89 to 18.93	0.8 to 20.72
Common within-network between-study variance within dose level	0.03 (95% CrI <0.01 to 0.44)		
Total posterior mean deviance	18.05		
Deviance information criterion	33.78		

Abbreviations: credible interval (CrI), predictive interval (PrI)

Table 4b. Results of separate dose effects network meta-analysis model (model #2): cerebrovascular events

Comparison	*Odds Ratio*	*95% CrI*	*95% PrI*
Olanzapine-Low vs. Placebo	0.20	0 to 6.37	0 to 6.71
Olanzapine-Medium vs. Placebo	4.42	1.39 to 15.25	1.22 to 17.24
Olanzapine-Medium vs. Olanzapine-Low	22.96	0.57 to 11090	0.55 to 11220
Quetiapine-Low vs. Placebo	0.94	0.2 to 3.9	0.19 to 4.35
Quetiapine-Low vs. Olanzapine-Low	4.86	0.1 to 2397	0.1 to 2443
Quetiapine-Low vs. Olanzapine-Medium	0.21	0.03 to 1.19	0.03 to 1.31
Quetiapine-Medium vs. Placebo	0.77	0.02 to 11.79	0.02 to 12.54
Quetiapine-Medium vs. Olanzapine-Low	4.11	0.03 to 2709	0.03 to 2786
Quetiapine-Medium vs. Olanzapine-Medium	0.17	0 to 3.28	0 to 3.5
Quetiapine-Medium vs. Quetiapine-Low	0.83	0.02 to 12.82	0.02 to 13.56
Risperidone-Low vs. Placebo	4.29	1.42 to 13.88	1.23 to 15.68
Risperidone-Low vs. Olanzapine-Low	22.36	0.56 to 10730	0.53 to 10980
Risperidone-Low vs. Olanzapine-Medium	0.97	0.22 to 4.18	0.2 to 4.67
Risperidone-Low vs. Quetiapine-Low	4.62	0.82 to 28.63	0.74 to 31.15
Risperidone-Low vs. Quetiapine-Medium	5.67	0.3 to 229.8	0.29 to 241
Risperidone-Medium vs. Placebo	3.93	1.43 to 12.15	1.23 to 13.94
Risperidone-Medium vs. Olanzapine-Low	20.57	0.53 to 9392	0.51 to 9566
Risperidone-Medium vs. Olanzapine-Medium	0.90	0.29 to 2.69	0.25 to 3.13
Risperidone-Medium vs. Quetiapine-Low	4.24	0.77 to 26.27	0.7 to 28.55
Risperidone-Medium vs. Quetiapine-Medium	5.21	0.28 to 213.7	0.26 to 221.9
Risperidone-Medium vs. Risperidone-Low	0.92	0.21 to 4.1	0.19 to 4.58
Common within-network between-study variance across doses	0.03 (95% CrI <0.01 to 0.51)		
Total posterior mean deviance	19		
Deviance information criterion	36.76		

Abbreviations: credible interval (CrI), predictive interval (PrI)

Table 4c. Results of exchangeable dose effects network meta-analysis model with consistency on the treatment and dose levels (model #3): cerebrovascular events

Comparison	*Odds Ratio*	*95% CrI*	*95% PrI*
Olanzapine-Low vs. Placebo	2.29	0.22 to 10.32	0.2 to 11.38
Olanzapine-Medium vs. Placebo	3.36	1.15 to 10.42	1.01 to 11.76
Olanzapine-Medium vs. Olanzapine-Low	1.26	0.48 to 17.28	0.41 to 18.27
Quetiapine-Low vs. Placebo	0.91	0.21 to 3.57	0.2 to 4.01
Quetiapine-Low vs. Olanzapine-Low	0.41	0.05 to 5.75	0.05 to 6.11
Quetiapine-Low vs. Olanzapine-Medium	0.27	0.05 to 1.4	0.04 to 1.56
Quetiapine-Medium vs. Placebo	0.89	0.13 to 5.33	0.12 to 5.82
Quetiapine-Medium vs. Olanzapine-Low	0.39	0.04 to 8.04	0.04 to 8.37
Quetiapine-Medium vs. Olanzapine-Medium	0.27	0.03 to 1.92	0.03 to 2.09
Quetiapine-Medium vs. Quetiapine-Low	1.00	0.22 to 4	0.2 to 4.39
Risperidone-Low vs. Placebo	3.80	1.56 to 10.15	1.31 to 11.65
Risperidone-Low vs. Olanzapine-Low	1.63	0.35 to 21.76	0.32 to 23.06
Risperidone-Low vs. Olanzapine-Medium	1.14	0.34 to 3.78	0.3 to 4.26
Risperidone-Low vs. Quetiapine-Low	4.23	0.89 to 22.4	0.8 to 24.41
Risperidone-Low vs. Quetiapine-Medium	4.28	0.62 to 34.97	0.58 to 37.39
Risperidone-Medium vs. Placebo	3.58	1.52 to 9.12	1.28 to 10.55
Risperidone-Medium vs. Olanzapine-Low	1.54	0.36 to 18.57	0.33 to 19.66
Risperidone-Medium vs. Olanzapine-Medium	1.07	0.38 to 3.01	0.33 to 3.48
Risperidone-Medium vs. Quetiapine-Low	3.96	0.82 to 21.01	0.75 to 22.96
Risperidone-Medium vs. Quetiapine-Medium	4.05	0.58 to 31.91	0.53 to 34.72
Risperidone-Medium vs. Risperidone-Low	0.97	0.33 to 2.51	0.29 to 2.9
Common within-network between-study variance within-dose level	0.03 (95% CrI <0.01 to 0.46)		
Common within-network between-dose variance within-treatment level	0.18 (<0.01 to 2.76)		
Total posterior mean deviance	18.11		
Deviance information criterion	34.15		

Abbreviations: credible interval (CrI), predictive interval (PrI)

Table 4d. Surface under the cumulative ranking curve values: cerebrovascular events

Treatment	*Median SUCRA (95% CrI)*		
	Model #1	*Model #2*	*Model #3*
Placebo	66.67	66.67	66.67
Quetiapine	100	-	-
Quetiapine-Low	-	66.67	83.33
Quetiapine-Medium	-	83.33	83.33
Olanzapine	33.33	-	-
Olanzapine-Low	-	100	50
Olanzapine-Medium	-	16.67	33.33
Risperidone	0	-	-
Risperidone-Low	-	16.67	16.67
Risperidone-Medium	-	16.67	16.67

Abbreviations: credible interval (CrI), surface under the cumulative ranking curve (SUCRA)

Table 5. Number of patients experiencing nausea per treatment dose (arm-level data)

ID	Author, Year	Placebo	Donepezil		Galantamine		Rivastigmine	
			Low	High	Low	High	Low	High
1	Agid, 1998[18]	8/133					23/136	
2	Ancoli-Israel, 2005[19]			1/32	3/31			
3	Black, 2007[20]	3/167		12/176				
4	Brodaty, 2005[21]	16/320				45/326		
5	Burns, 1999[22]	19/274	19/271					
6	Burns, 2009[23]	13/200				25/207		
7	Corey-Bloom, 1998[24]	26/235					33/233	
8	Cumbo, 2005[25]			2/31	2/33			3/37
9	Cumbo, 2014[26]			3/42		1/41		3/46
10	Feldman, 2007[27]	31/222						123/228
11	Frolich, 2011[28]	2/164		6/160				
12	Fuschillo, 2001[29]		1/16					2/11
13	Gold, 2010[30]	0/165		4/83				
14	Homma, 2000[31]	1/131	6/136					
15	Johannsen, 2006[32]	0/102		1/99				
16	Jones, 2004[33]			10/64	13/56			
17	Maher-Edwards, 2011[34]	1/62		2/67				
18	Nordberg, 2009[35]			2/20		6/21		10/22
19	Raskind, 2000[36]	28/213			79/212			
20	Rockwood, 2001[37]	14/125			84/261			
21	Rogers, 1998[38]	12/153	11/157					
22	Rosler, 1999[39]	23/239					41/242	
23	Seltzer, 2004[40]	2/57		10/96				
24	Sramek, 1996[41]	1/10						8/20
25	Tariot, 2001[42]	4/105		9/103				
26	Wilcock, 2000[43]	26/215				82/220		
27	Wilkinson, 2002[44]			6/56				23/55

28	Wilkinson, 2001[45]	3/87				10/56		
29	Winblad, 2007[46]	15/302						68/294
30	Winblad, 2006[47]	5/120		8/128				
31	Feldman, 2001[48]	6/146		10/144				
32	Forette, 1999[49]	8/19						45/58
33	Karaman, 2005[50]	15/20						17/24
34	Mohs, 2001[51]	19/217		14/214				
35	Rogers, 1998[52]	6/162	6/154					
36	Tariot, 2000[53]	13/286			8/140			
37	Wilcock, 1997[54]	0/36				8/140		
38	Winblad, 2001[55]	13/144		16/142				
39	Haig, 2014[56]	1/63		4/60				
40	Shimizu, 2015[57]		3/25			1/25		
41	Gault, 2015[58]	1/68		6/68				

Table 6. Number of patients experiencing a headache per treatment dose (arm-level data)

ID	Author, Year	Placebo	Donepezil		Galantamine		Rivastigmine	
			Low	High	Low	High	Low	High
1	Agid, 1998[18]	8/133					23/269	
2	Ancoli-Israel, 2005[19]			3/32	2/31			
3	Brodaty, 2005[21]	18/320				45/645		
4	Burns, 2009[23]	13/200				8/207		
5	Cumbo, 2014[26]			2/42		1/41		1/46
6	Feldman, 2007[27]	23/222						40/228
7	Frolich, 2011[28]	9/164		5/160				
8	Fuschillo, 2001[29]		1/16					1/11
9	Gold, 2010[30]	0/165		7/83				
10	Homma, 2000[31]	1/131	4/136					
11	Johannsen, 2006[32]	3/102		0/99				
12	Jones, 2004[33]			4/64	3/56			
13	Maher-Edwards, 2011[34]	2/62		1/67				
14	Nordberg, 2009[35]			2/20		2/21		3/22
15	Rogers, 1998[38]	13/153	21/157	19/158				
16	Rogers, 1996[59]	3/40	7/121					
17	Rosler, 1999[39]	18/239					16/242	45/242
18	Sramek, 1996[41]	7/10						13/20
19	Tariot, 2001[42]	17/105		15/103				
20	Wilcock, 2000[43]	7/215			46/438			
21	Wilkinson, 2002[44]			4/58				10/55
22	Wilkinson, 2001[45]	4/87				19/198		
23	Winblad, 2007[46]	5/302						18/294
24	Feldman, 2001[48]	6/146		17/144				
25	Forette, 1999[49]	4/19						16/45
26	Homma, 1998[60]	0/59	1/128					
27	Karaman, 2005[50]	0/20						9/24

28	Mohs, 2001[51]	7/217		20/214				
29	Winblad, 2001[55]	9/144		11/142				
30	Marek, 2014[61]	4/66		4/66				
31	Haig, 2014[56]	7/63		2/60				

Table 7. Assessment of transitivity at the treatment level: nausea

Treatment Comparison	No. of Studies (No. of Patients)	Age (years)	Female Sex	Study Setting	Study Duration (weeks)	Severity of Dementia	RoB: Allocation Concealment	RoB: Missing Data
Donepezil vs. galantamine	6 (421)	70-79.9	≥50%	Outpatient	13-30	Mild/ moderate	Unclear risk	High risk
Donepezil vs. placebo	17 (4562)	70-79.9	≥50%	Outpatient	13-30	Mild/ moderate	Unclear risk	Low risk
Donepezil vs. rivastigmine	5 (336)	70-79.9	≥50%	Outpatient	13-30	Mild/ moderate	Unclear risk	High risk
Galantamine vs. placebo	8 (2969)	70-79.9	≥50%	Outpatient	13-30	Mild/ moderate	Unclear risk	Low risk
Galantamine vs. rivastigmine	3 (200)	70-79.9	≥50%	Outpatient	>30	Mild/ moderate	Unclear risk	High risk
Rivastigmine vs. placebo	8 (2415)	70-79.9	≥50%	Outpatient	13-30	Mild/ moderate	Low risk	Low risk

Abbreviations: risk of bias (RoB)

Table 8. Assessment of transitivity at the dose level: nausea

Treatment Comparison	No. of Studies (No. of Patients)	Age (years)	Female Sex	Study Setting	Study Duration (weeks)	Severity of Dementia	RoB: Allocation Concealment	RoB: Missing Data
Donepezil, high vs. galantamine, high	2 (124)	70-79.9	≥50%	Outpatient	>30	Mild/ moderate/ severe	Unclear risk	High risk
Donepezil, high vs. galantamine, low	3 (247)	70-79.9	≥50%	Outpatient	<13	Mild/ moderate	Unclear risk	Unclear risk
Donepezil, high vs. placebo	13 (3124)	70-79.9	≥50%	Outpatient/ LTC	13-30	Mild/ moderate	Unclear risk	Low risk
Donepezil, high vs. rivastigmine, high	4 (309)	70-79.9	≥50%	Outpatient	13-30	Mild/ moderate	Unclear risk	High risk
Donepezil, low vs. galantamine, high	1 (50)	70-79.9	≥50%	Outpatient	>30	Mild/ moderate	Unclear risk	High risk
Donepezil, low vs. placebo	4 (1438)	<70	≥50%	Outpatient	13-30	Mild/ moderate	Unclear risk	Low risk
Galantamine, high vs. placebo	7 (2543)	70-79.9	≥50%	Outpatient	13-30	Mild/ moderate	Low risk	Low risk
Galantamine, high vs. rivastigmine, high	2 (130)	70-79.9	≥50%	Outpatient	>30	Mild/ moderate/ severe	Unclear risk	High risk
Galantamine, low vs. placebo	1 (426)	70-79.9	≥50%	Not reported	13-30	Not reported	Unclear risk	Low risk
Galantamine, low vs. rivastigmine, high	1 (70)	70-79.9	≥50%	Not reported	13-30	Mild/ moderate	Unclear risk	Unclear risk
Rivastigmine, high vs. placebo	5 (1197)	70-79.9	≥50%	Outpatient	13-30	Mild/ moderate	Low risk	Low risk
Rivastigmine, low vs. placebo	3 (1218)	70-79.9	≥50%	Not reported	13-30	Mild/ moderate	Low risk	Low risk

Abbreviations: long-term care (LTC), risk of bias (RoB)

Table 9a. Results of equal dose effects network meta-analysis model (model #1): nausea

Comparison	*Odds Ratio*	*95% CrI*	*95% PrI*
Donepezil vs. Placebo	1.72	1.24 to 2.45	0.65 to 4.79
Galantamine vs. Placebo	2.98	2.05 to 4.31	1.09 to 8.12
Galantamine vs. Donepezil	1.73	1.07 to 2.69	0.59 to 4.75
Rivastigmine vs. Placebo	3.78	2.61 to 5.59	1.4 to 10.44
Rivastigmine vs. Donepezil	2.21	1.37 to 3.48	0.76 to 6.14
Rivastigmine vs. Galantamine	1.27	0.78 to 2.12	0.44 to 3.74
Common within-network between-study variance within dose level	0.20 (95% CrI 0.06 to 0.49)		
Total posterior mean deviance	84.65		
Deviance information criterion	157.4		

Abbreviations: credible interval (CrI), predictive interval (PrI)

Table 9b. Results of separate dose effects network meta-analysis model (model #2): nausea

Comparison	*Odds Ratio*	*95% CrI*	*95% PrI*
Donepezil-Low vs. Placebo	1.30	0.79 to 2.21	0.67 to 2.71
Donepezil-High vs. Placebo	1.75	1.27 to 2.48	1.02 to 3.27
Donepezil-High vs. Donepezil-Low	1.35	0.74 to 2.45	0.63 to 2.9
Galantamine-Low vs. Placebo	2.21	1.14 to 4.32	1 to 5.09
Galantamine-Low vs. Donepezil-Low	1.70	0.74 to 3.89	0.65 to 4.39
Galantamine-Low vs. Donepezil-High	1.26	0.65 to 2.43	0.56 to 2.81
Galantamine-High vs. Placebo	3.44	2.53 to 4.61	1.91 to 5.97
Galantamine-High vs. Donepezil-Low	2.65	1.43 to 4.66	1.19 to 5.41
Galantamine-High vs. Donepezil-High	1.96	1.23 to 2.99	0.97 to 3.6
Galantamine-High vs. Galantamine-Low	1.56	0.74 to 3.19	0.63 to 3.62
Rivastigmine-Low vs. Placebo	1.87	1.21 to 2.97	0.98 to 3.7
Rivastigmine-Low vs. Donepezil-Low	1.44	0.72 to 2.8	0.62 to 3.23
Rivastigmine-Low vs. Donepezil-High	1.07	0.61 to 1.84	0.51 to 2.18
Rivastigmine-Low vs. Galantamine-Low	0.85	0.38 to 1.88	0.33 to 2.14
Rivastigmine-Low vs. Galantamine-High	0.54	0.32 to 0.95	0.27 to 1.15
Rivastigmine-High vs. Placebo	5.77	3.98 to 8.2	3.08 to 10.32
Rivastigmine-High vs. Donepezil-Low	4.45	2.31 to 8.11	1.92 to 9.27
Rivastigmine-High vs. Donepezil-High	3.29	2.05 to 5.06	1.61 to 6
Rivastigmine-High vs. Galantamine-Low	2.62	1.24 to 5.34	1.06 to 6.01
Rivastigmine-High vs. Galantamine-High	1.68	1.07 to 2.62	0.86 to 3.21
Rivastigmine-High vs. Rivastigmine-Low	3.09	1.69 to 5.38	1.4 to 6.3
Common within-network between-study variance across doses	0.03 (95% CrI <0.01 to 0.23)		
Total posterior mean deviance	92.97		
Deviance information criterion	166.9		

Abbreviations: credible interval (CrI), predictive interval (PrI)

Table 9c. Results of exchangeable dose effects network meta-analysis model with consistency on the treatment and dose levels (model #3): nausea

Comparison	*Odds Ratio*	*95% CrI*	*95% PrI*
Donepezil vs. Placebo	1.55	0.51 to 4.41	0.46 to 5.05
Galantamine vs. Placebo	2.84	0.94 to 8.41	0.85 to 9.41
Galantamine vs. Donepezil	1.84	0.41 to 8.91	0.38 to 9.52
Rivastigmine vs. Placebo	3.37	1.1 to 9.82	0.99 to 11.02
Rivastigmine vs. Donepezil	2.18	0.47 to 10.13	0.43 to 10.87
Rivastigmine vs. Galantamine	1.18	0.25 to 5.59	0.24 to 5.99
Donepezil-Low vs. Placebo	1.36	0.84 to 2.27	0.69 to 2.96
Donepezil-High vs. Placebo	1.74	1.27 to 2.45	0.95 to 3.41
Donepezil-High vs. Donepezil-Low	1.27	0.74 to 2.25	0.58 to 2.73
Galantamine-Low vs. Placebo	2.38	1.27 to 4.37	1.08 to 5.48
Galantamine-Low vs. Donepezil-Low	1.75	0.81 to 3.71	0.68 to 4.37
Galantamine-Low vs. Donepezil-High	1.37	0.72 to 2.53	0.6 to 3.1
Galantamine-High vs. Placebo	3.36	2.43 to 4.52	1.73 to 6.13
Galantamine-High vs. Donepezil-Low	2.47	1.34 to 4.34	1.04 to 5.13
Galantamine-High vs. Donepezil-High	1.94	1.21 to 2.93	0.91 to 3.64
Galantamine-High vs. Galantamine-Low	1.40	0.74 to 2.77	0.58 to 3.2
Rivastigmine-Low vs. Placebo	2.08	1.33 to 3.72	1.08 to 4.8
Rivastigmine-Low vs. Donepezil-Low	1.55	0.79 to 2.99	0.66 to 3.68
Rivastigmine-Low vs. Donepezil-High	1.20	0.68 to 2.25	0.56 to 2.84
Rivastigmine-Low vs. Galantamine-Low	0.89	0.42 to 1.87	0.36 to 2.26
Rivastigmine-Low vs. Galantamine-High	0.62	0.36 to 1.26	0.3 to 1.59
Rivastigmine-High vs. Placebo	5.37	3.5 to 7.69	2.56 to 9.81
Rivastigmine-High vs. Donepezil-Low	3.96	1.96 to 7.28	1.53 to 8.38
Rivastigmine-High vs. Donepezil-High	3.09	1.84 to 4.81	1.37 to 5.83
Rivastigmine-High vs. Galantamine-Low	2.26	1.07 to 4.62	0.85 to 5.27
Rivastigmine-High vs. Galantamine-High	1.60	1 to 2.49	0.76 to 3.15
Rivastigmine-High vs. Rivastigmine-Low	2.60	1.14 to 4.64	0.93 to 5.36
Common within-network between-study variance within-dose level	0.04 (95% CrI <0.01 to 0.28)		
Common within-network between-dose variance within-treatment level	0.32 (95% CrI 0.02 to 2.26)		
Total posterior mean deviance	91.79		
Deviance information criterion	165.3		

Abbreviations: credible interval (CrI), predictive interval (PrI)

Table 9d. Surface under the cumulative ranking curve values: nausea

Treatment	*Median SUCRA (95% CrI)*		
	Model #1	*Model #2*	*Model #3*
Placebo	100	100	100
Donepezil	66.67	-	-
Donepezil-Low	-	83.33	83.33
Donepezil-High	-	66.67	83.33
Galantamine	33.33	-	-
Galantamine-Low	-	33.33	33.33
Galantamine-High	-	16.67	16.67
Rivastigmine	0	-	-
Rivastigmine-Low	-	50	50
Rivastigmine-High	-	0	0

Abbreviations: credible interval (CrI), surface under the cumulative ranking curve (SUCRA)

Table 10. Assessment of transitivity at the treatment level: headache

Treatment Comparison	No. of Studies (No. of Patients)	Age (years)	Female Sex	Study Setting	Study Duration (weeks)	Severity of Dementia	RoB: Allocation Concealment	RoB: Missing Data
Donepezil vs. galantamine	4 (307)	70-79.9	≥50%	Outpatient	13-30	Mild/ moderate	Unclear risk	High risk
Donepezil vs. placebo	14 (3461)	70-79.9	≥50%	Outpatient/ LTC	13-30	Mild/ moderate	Unclear risk	Low risk
Donepezil vs. rivastigmine	4 (270)	70-79.9	≥50%	Outpatient/ Neuropsycho-geriatric ward	13-30	Mild/ moderate	Unclear risk	High risk
Galantamine vs. placebo	5 (1422)	70-79.9	≥50%	Outpatient	13-30	Mild/ moderate	Unclear risk	Low risk
Galantamine vs. rivastigmine	2 (130)	70-79.9	≥50%	Outpatient	>30	Mild/ moderate/ severe	Unclear risk	High risk
Rivastigmine vs. placebo	6 (1909)	70-79.9	≥50%	Outpatient	13-30	Mild/ moderate	Low risk	Low risk

Abbreviations: long-term care (LTC), risk of bias (RoB)

Table 11. Assessment of transitivity at the dose level: headache

Treatment Dose Comparison	No. of Studies (No. of Patients)	Age (years)	Female Sex	Study Setting	Study Duration (weeks)	Severity of Dementia	RoB: Allocation Concealment	RoB: Missing Data
Donepezil, high vs. donepezil, low	1 (315)	70-79.9	≥50%	Not reported	<13	Mild/ moderate	Unclear risk	Low risk
Donepezil, high vs. galantamine, high	2 (124)	70-79.9	≥50%	Outpatient	>30	Mild/ moderate/ severe	Unclear risk	High risk
Donepezil, high vs. galantamine, low	2 (183)	70-79.9	≥50%	Outpatient	<13	Mild/ moderate	Unclear risk	Unclear risk
Donepezil, high vs. placebo	11 (2687)	70-79.9	≥50%	Outpatient/ LTC	13-30	Mild/ moderate	Unclear risk	Low risk
Donepezil, high vs. rivastigmine, high	3 (243)	70-79.9	≥50%	Outpatient	>30	Mild/ moderate	Unclear risk	High risk
Donepezil, low vs. placebo	4 (927)	70-79.9	≥50%	Not reported	13-30	Mild/ moderate	Unclear risk	Low risk
Galantamine, high vs. placebo	4 (2310)	70-79.9	≥50%	Outpatient	>30	Mild/ moderate	Unclear risk	Low risk
Galantamine, high vs. rivastigmine, high	2 (130)	70-79.9	≥50%	Outpatient	>30	Mild/ moderate/ severe	Unclear risk	High risk
Rivastigmine, high vs. placebo	6 (1667)	70-79.9	≥50%	Outpatient	13-30	Mild/ moderate	Low risk	Low risk
Rivastigmine, high vs. rivastigmine, low	1 (484)	70-79.9	≥50%	Not reported	13-30	Mild/ moderate	Low risk	Low risk
Rivastigmine, low vs. placebo	2 (883)	70-79.9	≥50%	Not reported	13-30	Mild/ moderate	High risk	Low risk

Abbreviations: long-term care (LTC), not reported (NR), risk of bias (RoB)

Table 12a. Results of equal dose effects network meta-analysis model (model #1): headache

Comparison	***Odds Ratio***	***95% CrI***	***95% PrI***
Donepezil vs. Placebo	1.39	0.92 to 2.09	0.42 to 4.61
Galantamine vs. Placebo	1.43	0.79 to 2.56	0.4 to 5.1
Galantamine vs. Donepezil	1.03	0.53 to 1.98	0.28 to 3.76
Rivastigmine vs. Placebo	2.19	1.35 to 3.62	0.65 to 7.57
Rivastigmine vs. Donepezil	1.57	0.88 to 2.86	0.44 to 5.65
Rivastigmine vs. Galantamine	1.53	0.75 to 3.22	0.41 to 5.94
Common within-network between-study variance within dose level	0.28 (95% CrI 0.07 to 0.76)		
Total posterior mean deviance	69.2		
Deviance information criterion	47.9		

Abbreviations: credible interval (CrI), predictive interval (PrI)

Table 12b. Results of separate dose effects network meta-analysis model (model #2): headache

Comparison	*Odds Ratio*	*95% CrI*	*95% PrI*
Donepezil-Low vs. Placebo	1.57	0.74 to 3.46	0.46 to 5.36
Donepezil-High vs. Placebo	1.37	0.9 to 2.04	0.48 to 3.82
Donepezil-High vs. Donepezil-Low	0.87	0.38 to 1.92	0.24 to 2.97
Galantamine-Low vs. Placebo	1.02	0.22 to 4.3	0.17 to 5.66
Galantamine-Low vs. Donepezil-Low	0.64	0.12 to 3.2	0.09 to 4.06
Galantamine-Low vs. Donepezil-High	0.74	0.17 to 2.98	0.13 to 3.93
Galantamine-High vs. Placebo	1.54	0.87 to 2.72	0.51 to 4.69
Galantamine-High vs. Donepezil-Low	0.98	0.37 to 2.52	0.25 to 3.74
Galantamine-High vs. Donepezil-High	1.13	0.58 to 2.24	0.35 to 3.68
Galantamine-High vs. Galantamine-Low	1.52	0.33 to 7.59	0.25 to 9.71
Rivastigmine-Low vs. Placebo	1.04	0.48 to 2.33	0.31 to 3.63
Rivastigmine-Low vs. Donepezil-Low	0.66	0.22 to 1.98	0.15 to 2.82
Rivastigmine-Low vs. Donepezil-High	0.76	0.32 to 1.87	0.21 to 2.87
Rivastigmine-Low vs. Galantamine-Low	1.02	0.2 to 5.65	0.16 to 7.15
Rivastigmine-Low vs. Galantamine-High	0.67	0.26 to 1.8	0.18 to 2.66
Rivastigmine-High vs. Placebo	2.67	1.66 to 4.34	0.92 to 7.85
Rivastigmine-High vs. Donepezil-Low	1.70	0.7 to 4.07	0.46 to 6.19
Rivastigmine-High vs. Donepezil-High	1.95	1.1 to 3.55	0.65 to 6.06
Rivastigmine-High vs. Galantamine-Low	2.63	0.59 to 12.64	0.45 to 16.43
Rivastigmine-High vs. Galantamine-High	1.73	0.85 to 3.55	0.53 to 5.69
Rivastigmine-High vs. Rivastigmine-Low	2.57	1.1 to 5.89	0.71 to 9.1
Common within-network between-study variance across doses	0.17 (95% CrI 0.01 to 0.65)		
Total posterior mean deviance	73.5		
Deviance information criterion	50.2		

Abbreviations: credible interval (CrI), predictive interval (PrI)

Table 12c. Results of exchangeable dose effects network meta-analysis model with consistency on the treatment and dose levels (model #3): headache

Comparison	*Odds Ratio*	*95% CrI*	*95% PrI*
Donepezil vs. Placebo	1.43	0.54 to 3.95	0.37 to 5.67
Galantamine vs. Placebo	1.39	0.44 to 3.99	0.31 to 5.73
Galantamine vs. Donepezil	0.97	0.21 to 3.83	0.17 to 5.09
Rivastigmine vs. Placebo	1.89	0.64 to 4.79	0.46 to 7.32
Rivastigmine vs. Donepezil	1.33	0.3 to 4.8	0.23 to 6.61
Rivastigmine vs. Galantamine	1.37	0.3 to 5.79	0.24 to 7.7
Donepezil-Low vs. Placebo	1.49	0.8 to 2.92	0.47 to 4.81
Donepezil-High vs. Placebo	1.39	0.93 to 2.04	0.48 to 3.93
Donepezil-High vs. Donepezil-Low	0.94	0.47 to 1.71	0.29 to 2.93
Galantamine-Low vs. Placebo	1.30	0.42 to 3.34	0.31 to 5
Galantamine-Low vs. Donepezil-Low	0.87	0.24 to 2.57	0.18 to 3.68
Galantamine-Low vs. Donepezil-High	0.93	0.31 to 2.41	0.22 to 3.6
Galantamine-High vs. Placebo	1.49	0.85 to 2.56	0.48 to 4.47
Galantamine-High vs. Donepezil-Low	0.99	0.43 to 2.23	0.27 to 3.5
Galantamine-High vs. Donepezil-High	1.07	0.57 to 2.03	0.33 to 3.38
Galantamine-High vs. Galantamine-Low	1.10	0.46 to 3.61	0.31 to 4.86
Rivastigmine-Low vs. Placebo	1.38	0.64 to 3.01	0.43 to 5.13
Rivastigmine-Low vs. Donepezil-Low	0.93	0.33 to 2.47	0.24 to 3.94
Rivastigmine-Low vs. Donepezil-High	1.00	0.43 to 2.36	0.29 to 3.87
Rivastigmine-Low vs. Galantamine-Low	1.12	0.31 to 3.61	0.24 to 5.19
Rivastigmine-Low vs. Galantamine-High	0.92	0.36 to 2.48	0.26 to 3.93
Rivastigmine-High vs. Placebo	2.47	1.51 to 3.98	0.82 to 7.25
Rivastigmine-High vs. Donepezil-Low	1.64	0.77 to 3.55	0.48 to 5.6
Rivastigmine-High vs. Donepezil-High	1.79	1 to 3.19	0.57 to 5.5
Rivastigmine-High vs. Galantamine-Low	1.90	0.68 to 6.53	0.47 to 8.76
Rivastigmine-High vs. Galantamine-High	1.66	0.83 to 3.35	0.5 to 5.5
Rivastigmine-High vs. Rivastigmine-Low	1.78	0.89 to 4.09	0.48 to 5.97
Common within-network between-study variance within-dose level	0.19 (95% CrI 0.01 to 0.65)		
Common within-network between-dose variance within-treatment level	0.18 (95% CrI <0.01 to 1.9)		
Total posterior mean deviance	72.5		
Deviance information criterion	49.5		

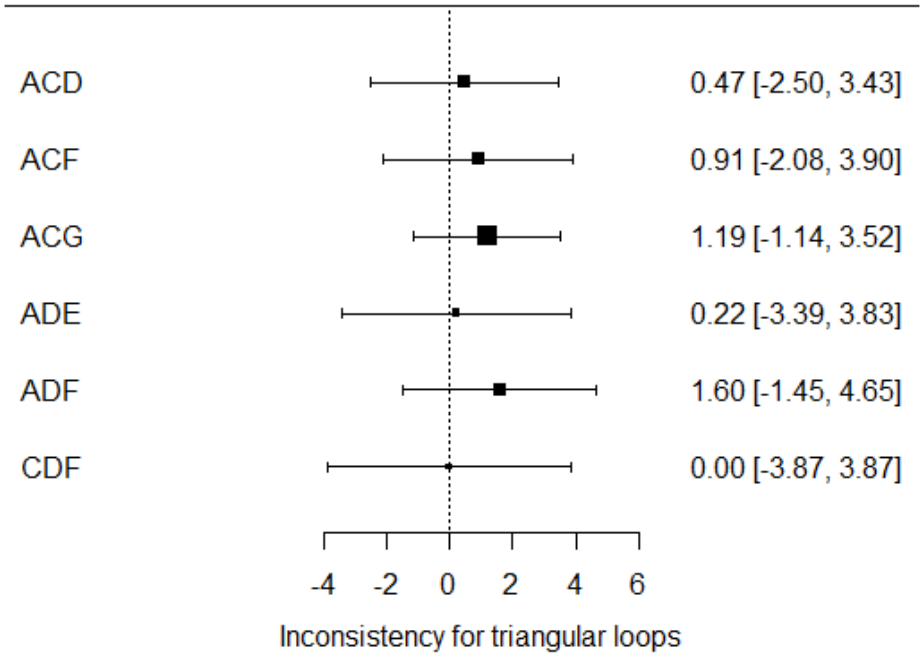
Abbreviations: credible interval (CrI), predictive interval (PrI)

Table 12d. Surface under the cumulative ranking curve values: headache

Treatment	*Median SUCRA (95% CrI)*		
	Model #1	*Model #2*	*Model #3*
Placebo	100	83.33	83.33
Donepezil	66.67	-	-
Donepezil-Low	-	33.33	50
Donepezil-High	-	50	50
Galantamine	33.33	-	-
Galantamine-Low	-	83.33	66.67
Galantamine-High	-	33.33	50
Rivastigmine	0	-	-
Rivastigmine-Low	-	83.33	50
Rivastigmine-High	-	0	0

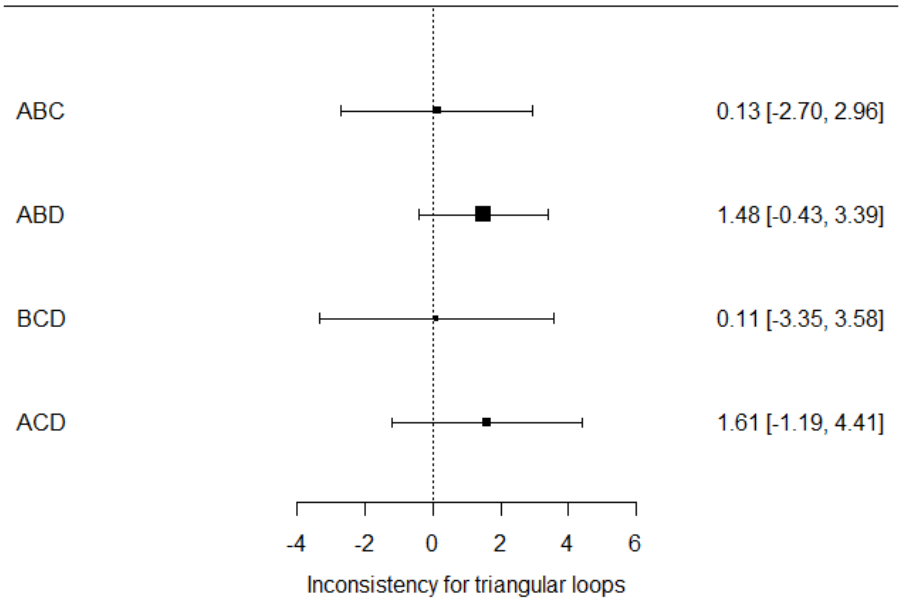
Abbreviations: credible interval (CrI), surface under the cumulative ranking curve (SUCRA)

Figure 1a. Inconsistency plot: Assessment of loop-specific consistency on the dose level for the outcome of cerebrovascular events



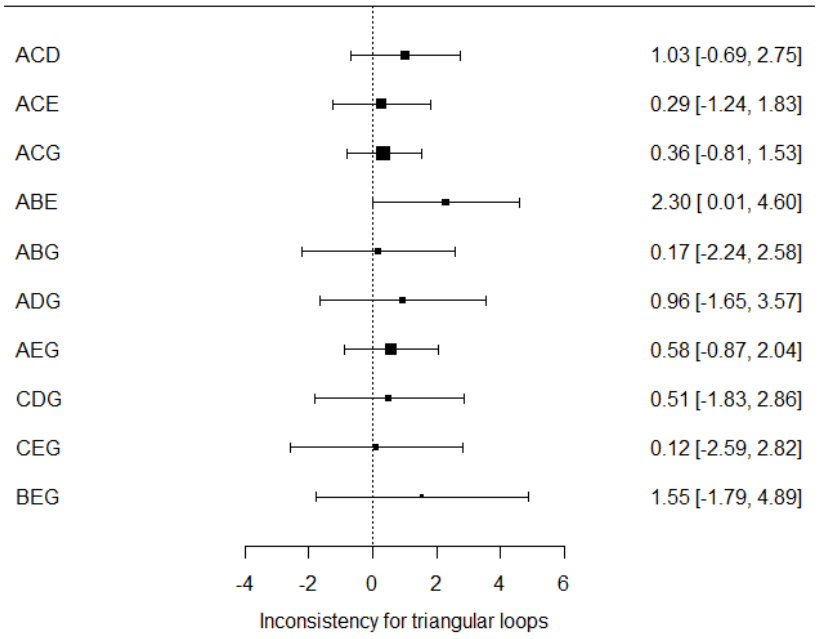
Abbreviations: placebo (A), low dose quetiapine (B), medium dose quetiapine (C), high dose quetiapine (D), low dose olanzapine (E), medium dose olanzapine (F), low dose risperidone (G), medium dose risperidone (H). Results are reported on the log-odds ratio scale. There were no inconsistent loops identified.

Figure 1b. Inconsistency plot: Assessment of loop-specific consistency on the treatment level for the outcome of cerebrovascular events



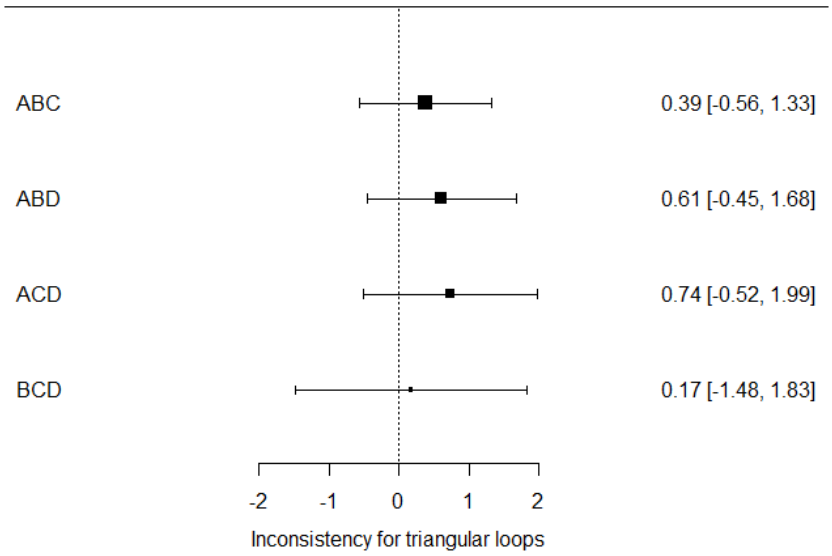
Abbreviations: placebo (A), quetiapine (B), olanzapine (C), risperidone (D). Results are reported on the log-odds ratio scale. There were no inconsistent loops identified.

Figure 2a. Inconsistency plot: Assessment of loop-specific consistency on the dose level for the outcome of nausea



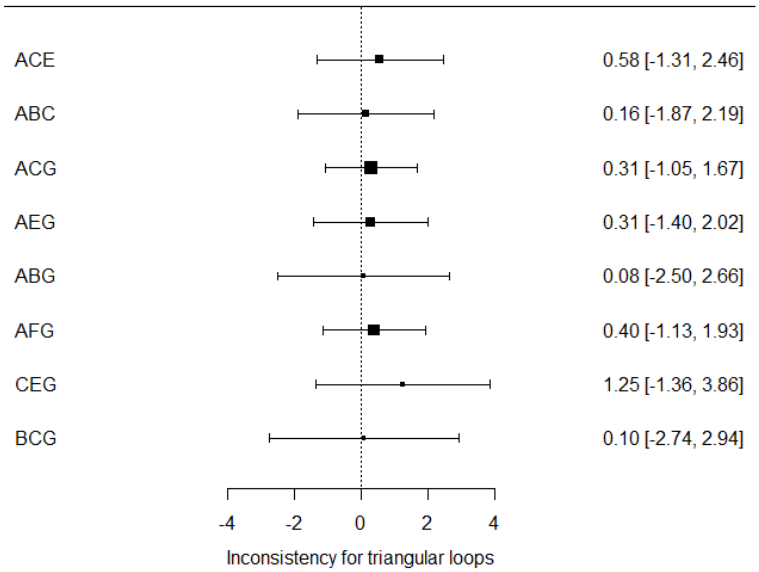
Abbreviations: placebo (A), low dose donepezil (B), high dose donepezil (C), low dose galantamine (D), high dose galantamine (E), low dose rivastigmine (F), high dose rivastigmine (G). Results are reported on the log-odds ratio scale. There is one inconsistent loop involving placebo (A), low dose donepezil (B), and high dose galantamine (E).

Figure 2b. Inconsistency plot: Assessment of loop-specific consistency on the treatment level for the outcome of nausea



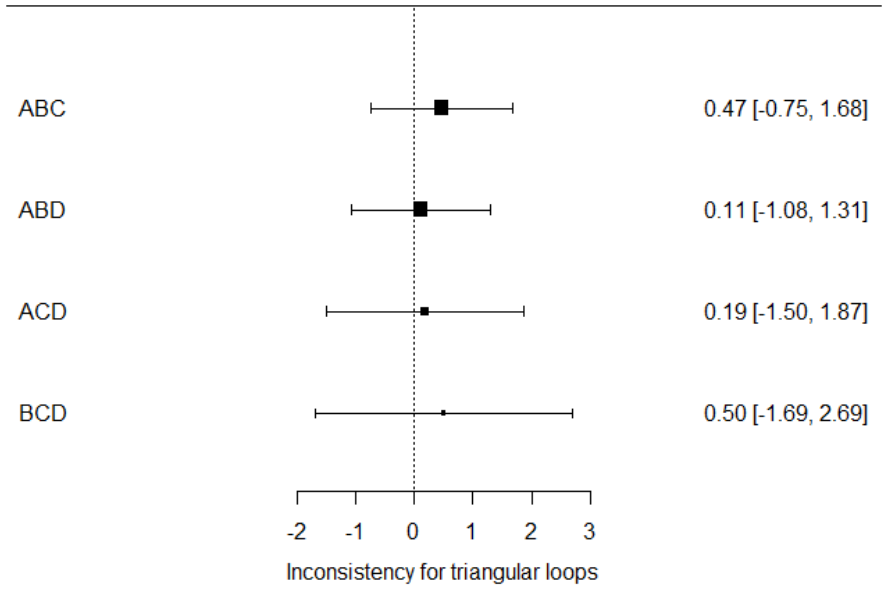
Abbreviations: placebo (A), donepezil (B), galantamine (C), rivastigmine (D). Results are reported on the log-odds ratio scale. There were no inconsistent loops identified.

Figure 3a. Inconsistency plot: Assessment of loop-specific consistency on the dose level for the outcome of headache



Abbreviations: placebo (A), low dose donepezil (B), high dose donepezil (C), low dose galantamine (D), high dose galantamine (E), low dose rivastigmine (F), high dose rivastigmine (G). Results are reported on the log-odds ratio scale. There were no inconsistent loops identified.

Figure 3b. Inconsistency plot: Assessment of loop-specific consistency on the treatment level for the outcome of headache



Abbreviations: placebo (A), donepezil (B), galantamine (C), rivastigmine (D). Results are reported on the log-odds ratio scale. There were no inconsistent loops identified.

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