Simulation_results.R

hputter

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```
library(here)

# Original
# Funnel
load(here("Results", "Base", "res_2021_01_20_15_18_39.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-20210000, nsim=simsettings$nsim)
```

```
##        M     mean      var    frvar     seed     nsim
## 3.00e+02 2.00e+02 2.25e+04 1.00e-10 1.19e+02 1.00e+01
```

```
res1 <- res
load(here("Results", "Base", "res_2021_01_24_18_53_44.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##          M       mean        var      frvar       seed       nsim
## 3.0000e+02 2.0000e+02 2.2500e+04 1.0000e-10 1.2302e+04 1.0000e+01
```

```
res2 <- res
load(here("Results", "Base", "res_2021_01_24_19_32_06.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##          M       mean        var      frvar       seed       nsim
## 3.0000e+02 2.0000e+02 2.2500e+04 1.0000e-10 1.2304e+04 1.0000e+01
```

```
res3 <- res
load(here("Results", "Base", "res_2021_01_25_13_50_31.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##          M       mean        var      frvar       seed       nsim
## 3.0000e+02 2.0000e+02 2.2500e+04 1.0000e-10 1.2305e+04 1.0000e+01
```

```
res4 <- res
load(here("Results", "Base", "res_2021_01_25_23_39_54.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##          M       mean        var      frvar       seed       nsim
```

```
## 3.0000e+02 2.0000e+02 2.2500e+04 1.0000e-10 1.2303e+04 1.0000e+01
```

```
res5 <- res

res <- rbind(res1, res2, res3, res4, res5)
mean(res$Z)
```

```
## [1] -0.0007006623
```

```
sd(res$Z)
```

```
## [1] 0.9817479
```

```
tbl <- table(res$Performance)
MMM <- sum(tbl)
tbl
```

```
##
##  Clearly worse than average          Worse than average                Within range
##                           2                         390                       14311
##         Better than average Clearly better than average
##                         297                           0
```

```
MMM
```

```
## [1] 15000
```

```
tbl / MMM
```

```
##
##  Clearly worse than average          Worse than average                Within range
##                0.0001333333                0.0260000000                0.9540666667
##         Better than average Clearly better than average
##                0.0198000000                0.0000000000
```

```
# Logan

load(here("Results", "Base", "res_Logan_2021_01_26_02_17_49.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##          M       mean        var      frvar       seed       nsim
## 3.0000e+02 2.0000e+02 2.2500e+04 1.0000e-10 1.2601e+04 1.0000e+01
```

```
res1 <- res
load(here("Results", "Base", "res_Logan_2021_01_27_17_15_59.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##          M       mean        var      frvar       seed       nsim
## 3.0000e+02 2.0000e+02 2.2500e+04 1.0000e-10 1.2602e+04 1.0000e+01
```

```
res2 <- res
load(here("Results", "Base", "res_Logan_2021_01_28_01_58_46.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##          M       mean        var      frvar       seed       nsim
```

```
## 3.0000e+02 2.0000e+02 2.2500e+04 1.0000e-10 1.2603e+04 1.0000e+01
```

```
res3 <- res
load(here("Results", "Base", "res_Logan_2021_01_28_11_47_40.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##          M       mean        var      frvar       seed       nsim
## 3.0000e+02 2.0000e+02 2.2500e+04 1.0000e-10 1.2605e+04 1.0000e+01
```

```
res4 <- res
load(here("Results", "Base", "res_Logan_2021_01_28_13_35_20.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##          M       mean        var      frvar       seed       nsim
## 3.0000e+02 2.0000e+02 2.2500e+04 1.0000e-10 1.2604e+04 1.0000e+01
```

```
res5 <- res

res <- rbind(res1, res2, res3, res4, res5)
res$Performance <- 0
res$Performance[res$under] <- -1
res$Performance[res$over] <- 1
res$Performance <- factor(res$Performance, levels=c(-1, 0, 1),
                          labels=c("Under", "Target", "Over"))

tbl <- table(res$Performance)
MMM <- sum(tbl)
tbl
```

```
##
##  Under Target   Over
##    675  13835    490
```

```
MMM
```

```
## [1] 15000
```

```
tbl / MMM
```

```
##
##      Under     Target       Over
## 0.04500000 0.92233333 0.03266667
```

```
###
###
### --- Fewer centers
###
###

# Funnel
load(here("Results", "Fewer centers", "res_2021_01_24_05_14_09.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##          M       mean        var      frvar       seed       nsim
## 3.0000e+01 2.0000e+02 2.2500e+04 1.0000e-10 1.2314e+04 1.0000e+02
```

```
res1 <- res
load(here("Results", "Fewer centers", "res_2021_01_24_05_14_59.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##          M       mean        var      frvar       seed       nsim
## 3.0000e+01 2.0000e+02 2.2500e+04 1.0000e-10 1.2312e+04 1.0000e+02
```

```
res2 <- res
load(here("Results", "Fewer centers", "res_2021_01_24_05_15_23.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##          M       mean        var      frvar       seed       nsim
## 3.0000e+01 2.0000e+02 2.2500e+04 1.0000e-10 1.2315e+04 1.0000e+02
```

```
res3 <- res
load(here("Results", "Fewer centers", "res_2021_01_24_05_18_26.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##          M       mean        var      frvar       seed       nsim
## 3.0000e+01 2.0000e+02 2.2500e+04 1.0000e-10 1.2311e+04 1.0000e+02
```

```
res4 <- res
load(here("Results", "Fewer centers", "res_2021_01_24_05_24_44.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##          M       mean        var      frvar       seed       nsim
## 3.0000e+01 2.0000e+02 2.2500e+04 1.0000e-10 1.2313e+04 1.0000e+02
```

```
res5 <- res

res <- rbind(res1, res2, res3, res4, res5)
mean(res$Z)
```

```
## [1] 0.005816567
```

```
sd(res$Z)
```

```
## [1] 0.965715
```

```
tbl <- table(res$Performance)
MMM <- sum(tbl)
tbl
```

```
##
##  Clearly worse than average          Worse than average                Within range
##                          11                         344                       14399
##         Better than average Clearly better than average
##                         239                           7
```

```
MMM
```

```
## [1] 15000
```

```
tbl / MMM
```

```
##
##  Clearly worse than average          Worse than average                Within range
##                0.0007333333                0.0229333333                0.9599333333
##         Better than average Clearly better than average
##                0.0159333333                0.0004666667
```

```
# Logan
load(here("Results", "Fewer centers", "res1_fewercenters_logan.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##          M       mean        var      frvar       seed       nsim
## 3.0000e+01 2.0000e+02 2.2500e+04 1.0000e-10 1.2511e+04 1.0000e+02
```

```
res1 <- res
load(here("Results", "Fewer centers", "res2345_fewercenters_logan.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##          M       mean        var      frvar       seed       nsim
## 3.0000e+01 2.0000e+02 2.2500e+04 1.0000e-10 1.2512e+04 4.0000e+02
```

```
res2 <- res

res <- rbind(res1, res2)
res$Performance <- 0
res$Performance[res$under] <- -1
res$Performance[res$over] <- 1
res$Performance <- factor(res$Performance, levels=c(-1, 0, 1),
                          labels=c("Under", "Target", "Over"))

tbl <- table(res$Performance)
MMM <- sum(tbl)
tbl
```

```
##
##  Under Target   Over
##    600  13886    514
```

```
MMM
```

```
## [1] 15000
```

```
tbl / MMM
```

```
##
##      Under     Target       Over
## 0.04000000 0.92573333 0.03426667
```

```
###
###
### --- Fewer patients
```

```
###
###

# Funnel
load(here("Results", "Fewer patients", "res_2021_01_24_18_31_50.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##          M       mean        var      frvar       seed       nsim
## 3.0000e+02 2.0000e+01 2.2500e+02 1.0000e-10 1.2403e+04 1.0000e+02
```

```
res1 <- res
load(here("Results", "Fewer patients", "res_2021_01_24_18_33_03.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##          M       mean        var      frvar       seed       nsim
## 3.0000e+02 2.0000e+01 2.2500e+02 1.0000e-10 1.2402e+04 1.0000e+02
```

```
res2 <- res
load(here("Results", "Fewer patients", "res_2021_01_24_18_41_27.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##          M       mean        var      frvar       seed       nsim
## 3.0000e+02 2.0000e+01 2.2500e+02 1.0000e-10 1.2401e+04 1.0000e+02
```

```
res3 <- res
load(here("Results", "Fewer patients", "res_2021_01_24_18_41_58.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##          M       mean        var      frvar       seed       nsim
## 3.0000e+02 2.0000e+01 2.2500e+02 1.0000e-10 1.2405e+04 1.0000e+02
```

```
res4 <- res
load(here("Results", "Fewer patients", "res_2021_01_24_18_48_09.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##          M       mean        var      frvar       seed       nsim
## 3.0000e+02 2.0000e+01 2.2500e+02 1.0000e-10 1.2404e+04 1.0000e+02
```

```
res5 <- res

res <- rbind(res1, res2, res3, res4, res5)
mean(res$Z)
```

```
## [1] -0.001267197
```

```
sd(res$Z)
```

```
## [1] 0.9854344
```

```
tbl <- table(res$Performance)
MMM <- sum(tbl)
tbl
```

```
##
##  Clearly worse than average          Worse than average                 Within range
##                          32                        4499                       143629
##         Better than average Clearly better than average
##                        1840                           0
```

```
MMM
```

```
## [1] 150000
```

```
tbl / MMM
```

```
##
##  Clearly worse than average          Worse than average                 Within range
##                0.0002133333                0.0299933333                0.9575266667
##         Better than average Clearly better than average
##                0.0122666667                0.0000000000
```

```
# Logan

# Funnel
load(here("Results", "Fewer patients", "res12345_fewerpatients_logan.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##            M         mean          var        frvar         seed         nsim
##  3.00000e+02  2.00000e+01  2.25000e+02  1.00000e-10 -2.00079e+09  5.00000e+02
```

```
res$Performance <- 0
res$Performance[res$under] <- -1
res$Performance[res$over] <- 1
res$Performance <- factor(res$Performance, levels=c(-1, 0, 1),
                          labels=c("Under", "Target", "Over"))

tbl <- table(res$Performance)
MMM <- sum(tbl)
tbl
```

```
##
##  Under Target   Over
##   5852 139347   4801
```

```
MMM
```

```
## [1] 150000
```

```
tbl / MMM
```

```
##
##      Under     Target       Over
## 0.03901333 0.92898000 0.03200667
```

```
###
###
### --- Frailty (variance 0.15)
```

```
###
###

# Funnel
load(here("Results", "Frailty1", "res_2021_01_25_23_40_57.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##        M     mean      var    frvar     seed     nsim
##   300.00   200.00 22500.00     0.15 12505.00    10.00
```

```
res1 <- res
load(here("Results", "Frailty1", "res_2021_01_25_23_44_53.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##        M     mean      var    frvar     seed     nsim
##   300.00   200.00 22500.00     0.15 12503.00    10.00
```

```
res2 <- res
load(here("Results", "Frailty1", "res_2021_01_26_00_16_23.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##        M     mean      var    frvar     seed     nsim
##   300.00   200.00 22500.00     0.15 12502.00    10.00
```

```
res3 <- res
load(here("Results", "Frailty1", "res_2021_01_26_00_47_45.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##        M     mean      var    frvar     seed     nsim
##   300.00   200.00 22500.00     0.15 12504.00    10.00
```

```
res4 <- res
load(here("Results", "Frailty1", "res_2021_01_26_00_52_08.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##        M     mean      var    frvar     seed     nsim
##   300.00   200.00 22500.00     0.15 12501.00    10.00
```

```
res5 <- res

res <- rbind(res1, res2, res3, res4, res5)
mean(res$Z)
```

```
## [1] 0.00576118
```

```
sd(res$Z)
```

```
## [1] 2.83603
```

```
tbl <- table(res$Performance)
MMM <- sum(tbl)
tbl
```

```
##
##  Clearly worse than average          Worse than average                 Within range
##                        1348                        1792                         8487
##         Better than average Clearly better than average
##                        2331                        1042
```

```
MMM
```

```
## [1] 15000
```

```
tbl / MMM
```

```
##
##  Clearly worse than average          Worse than average                 Within range
##                  0.08986667                  0.11946667                   0.56580000
##         Better than average Clearly better than average
##                  0.15540000                  0.06946667
```

```
# Logan
load(here("Results", "Frailty1", "res_Logan_2021_01_28_14_51_26.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##        M     mean      var    frvar     seed     nsim
##   300.00   200.00 22500.00     0.15 12801.00    50.00
```

```
res$Performance <- 0
res$Performance[res$under] <- -1
res$Performance[res$over] <- 1
res$Performance <- factor(res$Performance, levels=c(-1, 0, 1),
                          labels=c("Under", "Target", "Over"))

tbl <- table(res$Performance)
MMM <- sum(tbl)
tbl
```

```
##
##  Under Target   Over
##   3668   8334   2998
```

```
MMM
```

```
## [1] 15000
```

```
tbl / MMM
```

```
##
##     Under    Target      Over
## 0.2445333 0.5556000 0.1998667
```

```
###
###
### --- Frailty (variance 0.30)
###
###
```

```r
# Funnel
load(here("Results", "Frailty2", "res_2021_01_27_08_14_07.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##       M    mean     var   frvar    seed    nsim
##   300.0   200.0 22500.0     0.3 12601.0    10.0
```

```r
res1 <- res
load(here("Results", "Frailty2", "res_2021_01_27_08_35_09.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##       M    mean     var   frvar    seed    nsim
##   300.0   200.0 22500.0     0.3 12603.0    10.0
```

```r
res2 <- res
load(here("Results", "Frailty2", "res_2021_01_27_08_47_19.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##       M    mean     var   frvar    seed    nsim
##   300.0   200.0 22500.0     0.3 12605.0    10.0
```

```r
res3 <- res
load(here("Results", "Frailty2", "res_2021_01_27_09_03_37.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##       M    mean     var   frvar    seed    nsim
##   300.0   200.0 22500.0     0.3 12602.0    10.0
```

```r
res4 <- res
load(here("Results", "Frailty2", "res_2021_01_27_09_25_38.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##       M    mean     var   frvar    seed    nsim
##   300.0   200.0 22500.0     0.3 12604.0    10.0
```

```r
res5 <- res

res <- rbind(res1, res2, res3, res4, res5)
mean(res$Z)
```

```
## [1] 0.002595931
```

```r
sd(res$Z)
```

```
## [1] 3.81437
```

```r
tbl <- table(res$Performance)
MMM <- sum(tbl)
tbl
```

```
##
##  Clearly worse than average          Worse than average                Within range
##                        2129                        1640                        6711
##         Better than average Clearly better than average
##                        2574                        1946
```

```
MMM
```

```
## [1] 15000
```

```
tbl / MMM
```

```
##
##  Clearly worse than average          Worse than average                Within range
##                   0.1419333                   0.1093333                   0.4474000
##         Better than average Clearly better than average
##                   0.1716000                   0.1297333
```

```
# Logan
load(here("Results", "Frailty2", "res_Logan_2021_01_28_16_36_25.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##       M    mean     var   frvar    seed    nsim
##   300.0   200.0 22500.0     0.3 12801.0    50.0
```

```
res$Performance <- 0
res$Performance[res$under] <- -1
res$Performance[res$over] <- 1
res$Performance <- factor(res$Performance, levels=c(-1, 0, 1),
                          labels=c("Under", "Target", "Over"))

tbl <- table(res$Performance)
MMM <- sum(tbl)
tbl
```

```
##
##  Under Target   Over
##   4785   6508   3707
```

```
MMM
```

```
## [1] 15000
```

```
tbl / MMM
```

```
##
##     Under    Target      Over
## 0.3190000 0.4338667 0.2471333
```

```
###
###
### --- Base, same follow-up, in this scenario Logan should do well
###
###

# Funnel
load(here("Results", "Base_samefup", "res_2021_01_30_14_30_44.Rdata"))
simsettings <- attr(res, "simsettings")
```

```
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##          M       mean        var      frvar       seed       nsim
## 3.0000e+02 2.0000e+02 2.2500e+04 1.0000e-10 1.2901e+04 1.0000e+01
```

```
res1 <- res
load(here("Results", "Base_samefup", "res_2021_01_30_15_37_20.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##          M       mean        var      frvar       seed       nsim
## 3.0000e+02 2.0000e+02 2.2500e+04 1.0000e-10 1.2902e+04 1.0000e+01
```

```
res2 <- res
load(here("Results", "Base_samefup", "res_2021_01_30_15_40_21.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##          M       mean        var      frvar       seed       nsim
## 3.0000e+02 2.0000e+02 2.2500e+04 1.0000e-10 1.2904e+04 1.0000e+01
```

```
res3 <- res
load(here("Results", "Base_samefup", "res_2021_01_30_16_01_13.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##          M       mean        var      frvar       seed       nsim
## 3.0000e+02 2.0000e+02 2.2500e+04 1.0000e-10 1.2905e+04 1.0000e+01
```

```
res4 <- res
load(here("Results", "Base_samefup", "res_2021_01_30_16_12_53.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-2021000000, nsim=simsettings$nsim)
```

```
##          M       mean        var      frvar       seed       nsim
## 3.0000e+02 2.0000e+02 2.2500e+04 1.0000e-10 1.2903e+04 1.0000e+01
```

```
res5 <- res

res <- rbind(res1, res2, res3, res4, res5)
mean(res$Z)
```

```
## [1] 0.002395852
```

```
sd(res$Z)
```

```
## [1] 0.9885754
```

```
tbl <- table(res$Performance)
MMM <- sum(tbl)
tbl
```

```
##
##  Clearly worse than average          Worse than average                Within range
##                           2                         378                       14311
```

```
##         Better than average Clearly better than average
##                         309                           0
```

```
MMM
```

```
## [1] 15000
```

```
tbl / MMM
```

```
##
##  Clearly worse than average          Worse than average                Within range
##                0.0001333333                0.0252000000                0.9540666667
##         Better than average Clearly better than average
##                0.0206000000                0.0000000000
```

```
# Logan
load(here("Results", "Base_samefup", "res_Logan_2021_01_28_17_29_17.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-20210000, nsim=simsettings$nsim)
```

```
##        M     mean      var    frvar     seed     nsim
## 3.00e+02 2.00e+02 2.25e+04 1.00e-10 1.28e+02 5.00e+01
```

```
res$Performance <- 0
res$Performance[res$under] <- -1
res$Performance[res$over] <- 1
res$Performance <- factor(res$Performance, levels=c(-1, 0, 1),
                          labels=c("Under", "Target", "Over"))

tbl <- table(res$Performance)
MMM <- sum(tbl)
tbl
```

```
##
##  Under Target   Over
##    408  14233    359
```

```
MMM
```

```
## [1] 15000
```

```
tbl / MMM
```

```
##
##      Under     Target       Over
## 0.02720000 0.94886667 0.02393333
```

```
# NonPH
# Funnel
load(here("Results", "NonPH", "res_2021_02_04_17_45_01.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-20210000, nsim=simsettings$nsim)
```

```
##           M        mean         var       frvar        seed        nsim
## 3.00000e+02 2.00000e+02 2.25000e+04 1.50000e-01 2.00081e+09 1.00000e+01
```

```
res1 <- res
# Funnel
load(here("Results", "NonPH", "res_2021_02_04_18_12_25.Rdata"))
```

```
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-20210000, nsim=simsettings$nsim)
```

```
##           M        mean         var       frvar        seed        nsim
## 3.00000e+02 2.00000e+02 2.25000e+04 1.50000e-01 2.00081e+09 1.00000e+01
```

```
res2 <- res
# Funnel
load(here("Results", "NonPH", "res_2021_02_04_18_13_48.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-20210000, nsim=simsettings$nsim)
```

```
##           M        mean         var       frvar        seed        nsim
## 3.00000e+02 2.00000e+02 2.25000e+04 1.50000e-01 2.00081e+09 1.00000e+01
```

```
res3 <- res
# Funnel
load(here("Results", "NonPH", "res_2021_02_04_18_42_27.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-20210000, nsim=simsettings$nsim)
```

```
##           M        mean         var       frvar        seed        nsim
## 3.00000e+02 2.00000e+02 2.25000e+04 1.50000e-01 2.00081e+09 1.00000e+01
```

```
res4 <- res
# Funnel
load(here("Results", "NonPH", "res_2021_02_04_19_00_39.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-20210000, nsim=simsettings$nsim)
```

```
##           M        mean         var       frvar        seed        nsim
## 3.00000e+02 2.00000e+02 2.25000e+04 1.50000e-01 2.00081e+09 1.00000e+01
```

```
res5 <- res

res <- rbind(res1, res2, res3, res4, res5)
mean(res$Z)
```

```
## [1] 0.002663982
```

```
sd(res$Z)
```

```
## [1] 1.017603
```

```
tbl <- table(res$Performance)
MMM <- sum(tbl)
tbl
```

```
##
##  Clearly worse than average          Worse than average                Within range
##                           8                         411                       14211
##         Better than average Clearly better than average
##                         370                           0
```

```
MMM
```

```
## [1] 15000
```

```
tbl / MMM
```

```
##
##  Clearly worse than average          Worse than average                Within range
##                0.0005333333                0.0274000000                0.9474000000
##         Better than average Clearly better than average
##                0.0246666667                0.0000000000
```

```
# Logan
load(here("Results", "NonPH", "res_Logan_2021_02_05_11_38_17.Rdata"))
simsettings <- attr(res, "simsettings")
c(unlist(simsettings$centers), frvar=simsettings$event$rate$var,
  seed=simsettings$seed-20210000, nsim=simsettings$nsim)
```

```
##            M         mean          var        frvar         seed         nsim
## 3.000000e+02 2.000000e+02 2.250000e+04 1.500000e-01 2.000811e+09 5.000000e+01
```

```
res$Performance <- 0
res$Performance[res$under] <- -1
res$Performance[res$over] <- 1
res$Performance <- factor(res$Performance, levels=c(-1, 0, 1),
                          labels=c("Under", "Target", "Over"))

tbl <- table(res$Performance)
MMM <- sum(tbl)
tbl
```

```
##
##  Under Target   Over
##    639  13849    512
```

```
MMM
```

```
## [1] 15000
```

```
tbl / MMM
```

```
##
##      Under     Target       Over
## 0.04260000 0.92326667 0.03413333
```