# R PROGRAM USING BAYESX

require(BayesXsrc)

dir <- tempdir()

prg <- file.path(dir, "demo.prg")

# Input Data

n <- 352

setwd("C:/R files BHMRA")

attach("DS\_12\_4.Rdata")

dat <- DS\_12\_4

# CALL BAYESXSRC

# write data to dir

write.table(dat, file.path(dir, "data.raw"),quote = F, row.names = F)

# define prg file

writeLines("

bayesreg b

dataset d

d.infile using data.raw

b.outfile = mcmc

b.regress y = imd(rw2,a=1,b=0.0001)+gcse(rw2,a=1,b=0.0001)+areaid(random,a=1,b=0.0001) weight femp,family=binomial predict using d

b.getsample", prg)

# run prg file from R

run.bayesx(prg)

# Output files in R temporary directory location

library(rstanarm)

dat$ny=dat$femp-dat$y

dat$obs=seq(1,352)

S <- stan\_gamm4(cbind(y, ny) ~ s(gcse,k=20) + s(imd,k=20), data = dat,

family = binomial(link = "logit"), prior = student\_t(df = 7), random = ~(1|obs),

prior\_intercept = student\_t(df = 7), chains = 2, cores = 1, seed = 1234)

plot\_nonlinear(S)