Table S. Analytic R Code and Algorithm Code Block

```
#####################################################################
Run the 4 lines of R code for the desired Bayesian outcome, and then use the Algorithm Code Block below to generate results and a posterior histogram.
#####################################################################
# Group 1 data (GA<30):
n1_1 = 48 # Pre-Group Denominator
y1_1 = 5 # Number Out-of-Range
n2_1 = 30 # Post-Group Denominator
y2_1 = 7 # Number Out-of-Range
#####################################################################
# Group 2 data (GA 30–34):
n1_1 = 48 # Post
y1_1 = 3 # OUt-of-Range
n2_1 = 102 # Pre
y2_1 = 23 # Out-of-Range
#####################################################################
# Group 3 data (GA ≥35):
n1_1 = 270 # Post
y1_1 = 64 # OUt-of-Range
n2_1 = 375 # Pre
y2_1 = 145 # Out-of-Range
#####################################################################
# Group 1 data (SCr <0.81):
n1_1 = 196 # Pre
y1_1 = 36 # OUt-of-Range
n2_1 = 236 # Post
y2_1 = 53 # Out-of-Range
#####################################################################
# Group 2 data (SCr 0.81–0.99):
n1_1 =118 # Post
y1_1 = 23 # OUt-of-Range
n2_1 =195 # Pre
y2_1 = 78 # Out-of-Range
#####################################################################
# Group 3 data (SCr ≥1):
n1_1 = 52 # Post
y1_1 = 13 # OUt-of-Range
n2_1 = 76 # Pre
y2_1 = 44 # Out-of-Range
#####################################################################
# ALGORITHM CODE BLOCK
# Monte Carlo simulation-based integration of Bayesian posteriors
# The "+1" in the formula represents a flat beta distribution prior
#####################################################################
```

```
#####################################################################
# Number of simulations
I = 100000
# Post Data
theta1_1 = rbeta(I, y1_1+1, (n1_1 - y1_1)+1)
# Pre Data
theta2_1 = rbeta(I, y2_1 + 1, (n2_1 - y2_1)+1)
# Differences in proportions across time periods
diff_1 = theta1_1 - theta2_1
# Output
# Level of significance used to generate credible intervals
LoS = 0.05
Lower_cLoS = (LoS/2)
Upper_cLoS = 1 - (LoS/2)
quantiles_1 = quantile(diff_1,c(Lower_cLoS, 0.5, Upper_cLoS))
# Following is credible interval and estimate
# You can look at the histogram to ensure unimodal distribution and that it is appropriate to use the median
print(quantiles_1,digits=3)
# Probability value (not used in paper)
print(mean(theta1_1 > theta2_1))
#############################################################
# Visualization
plot(density(diff_1),
xlab="#Out-Range(Pre) - #Out-Range(Post)",
ylab="p(Pre - Post)",
main="Posterior Simulation of Out-of-Range by Sample",
ylim=c(0,12),
frame.plot=FALSE,cex.lab=1.5,lwd=3,yaxt="no")
abline(v=quantiles_1[1], col="blue")
abline(v=quantiles_1[3], col="blue")
abline(v=0, col='red', lwd=1, lty=2)
```