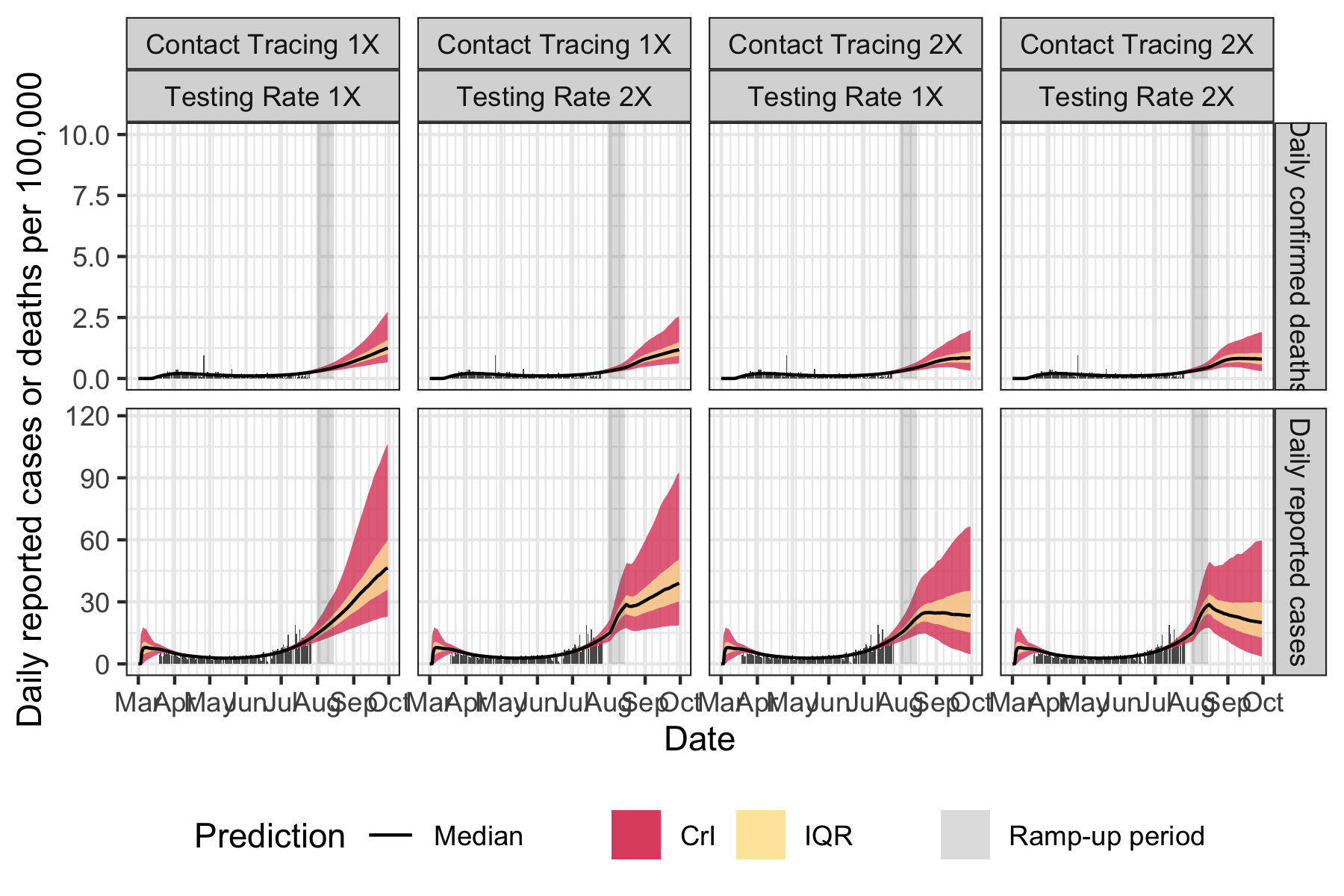
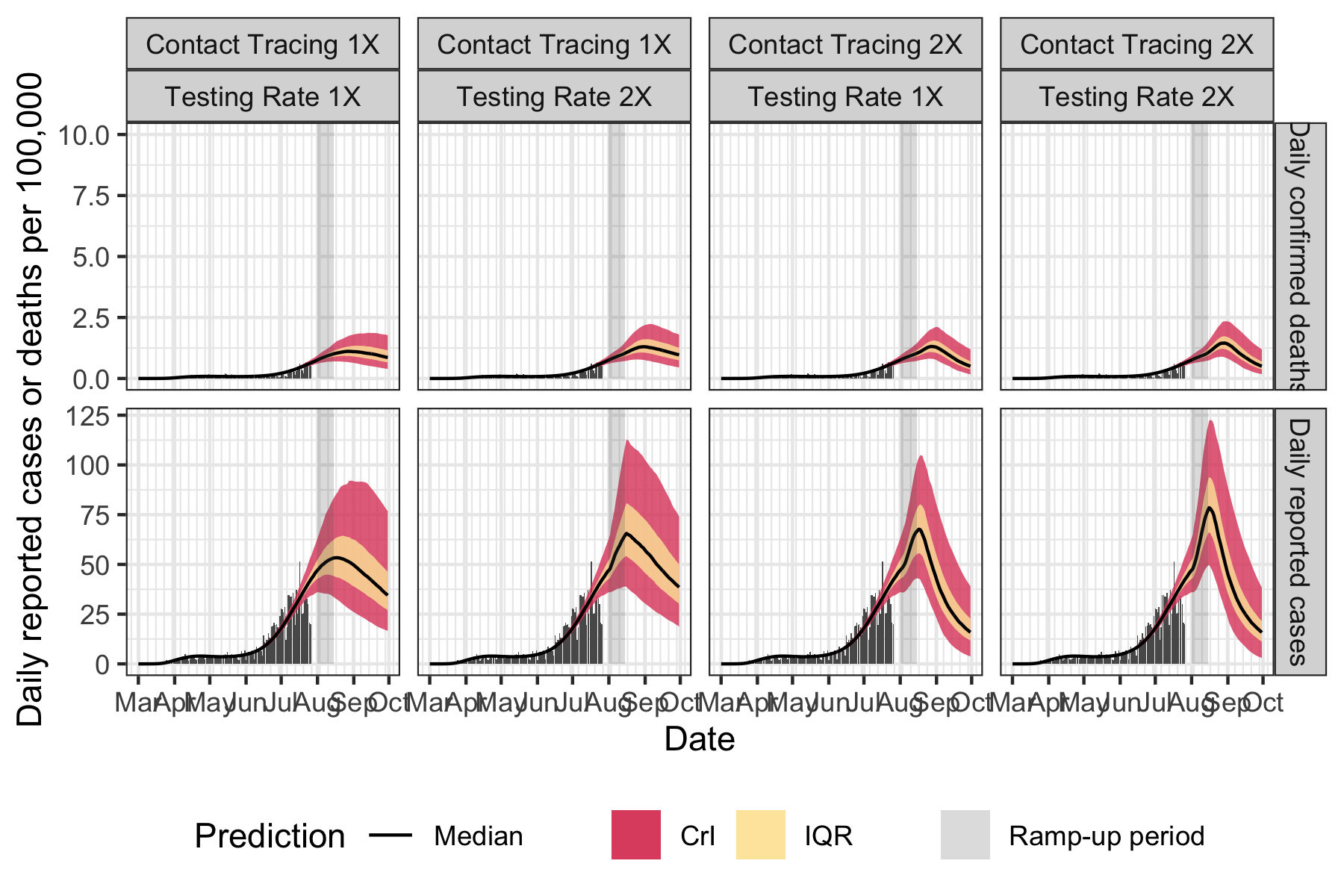
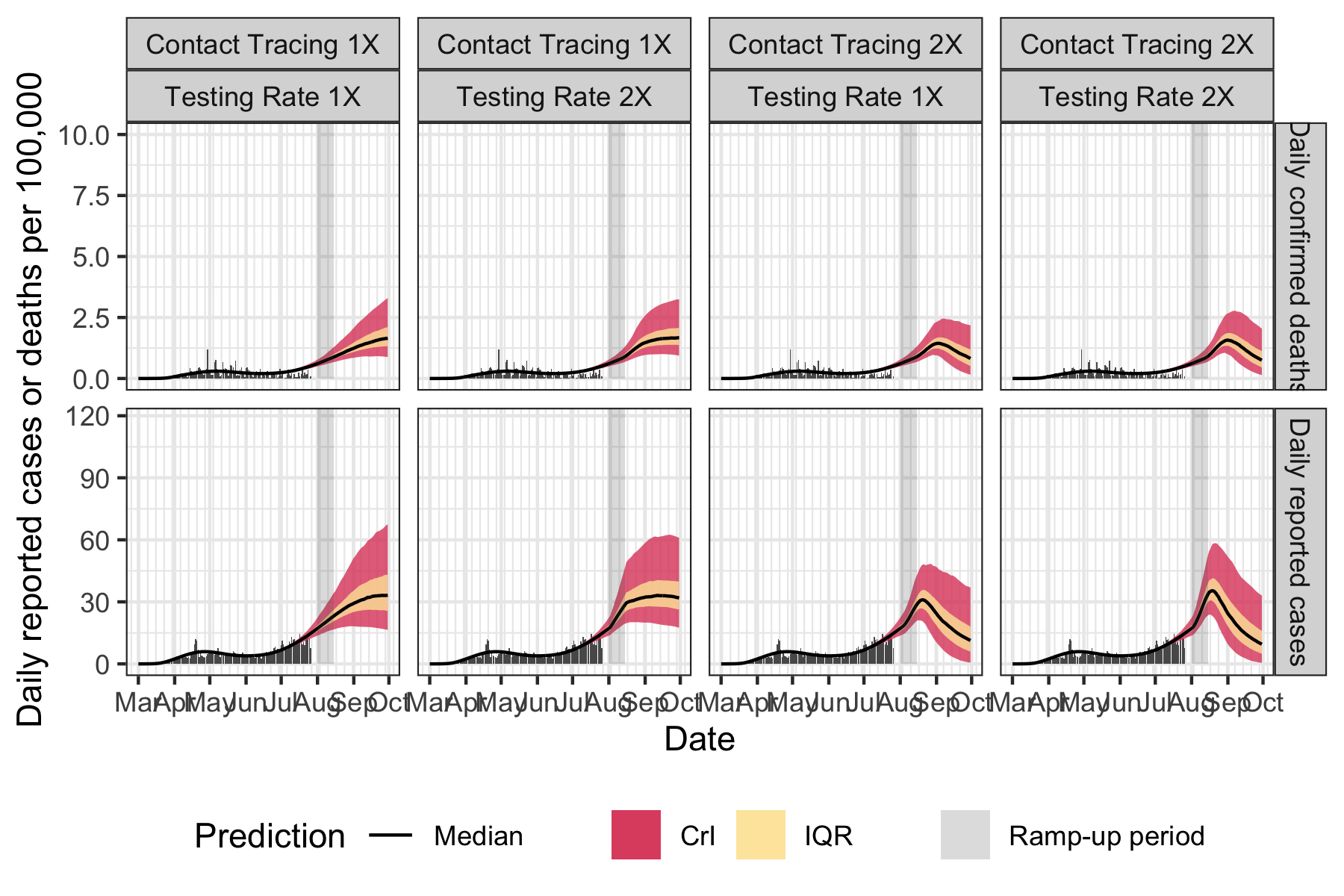
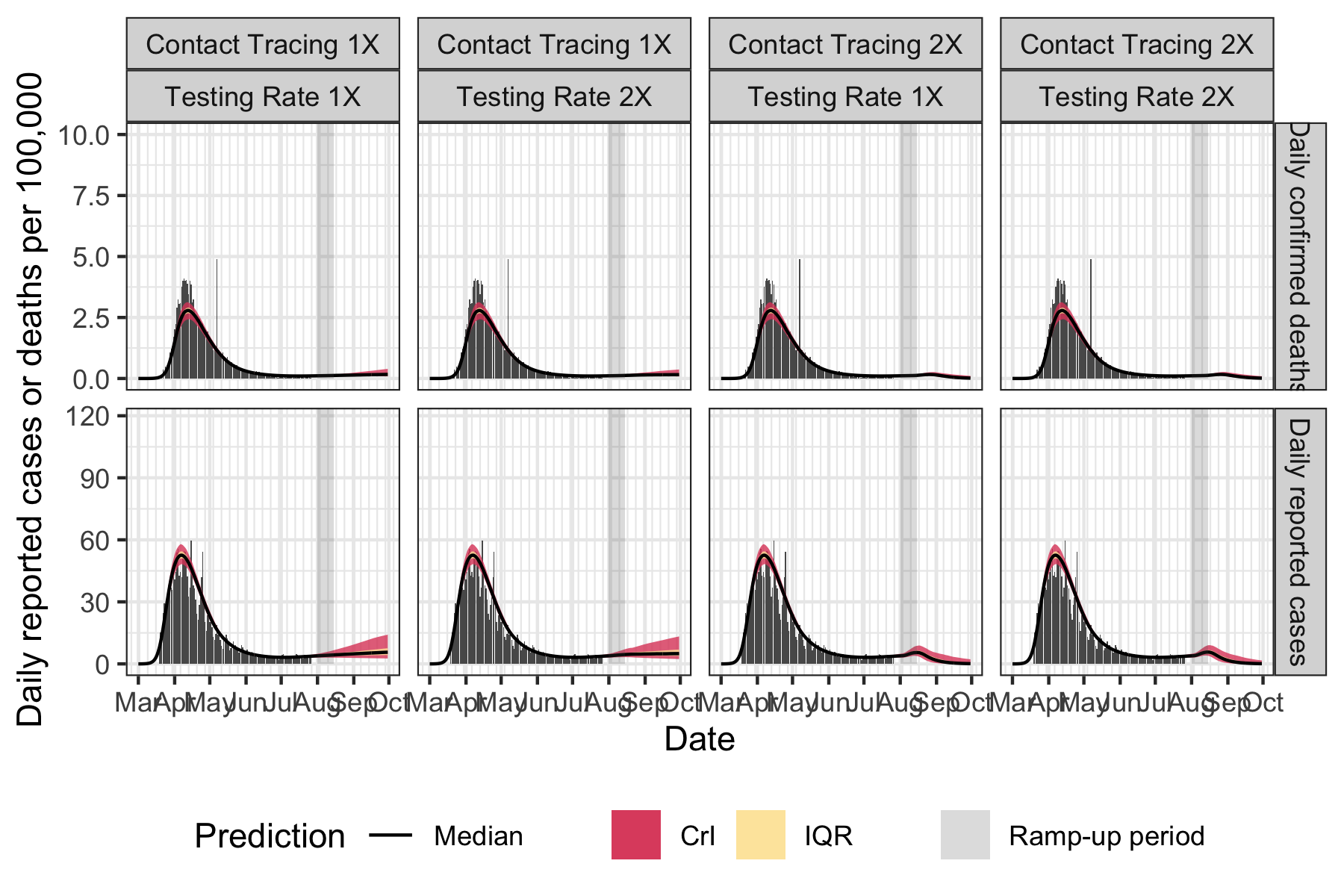
Scenario prediction figures

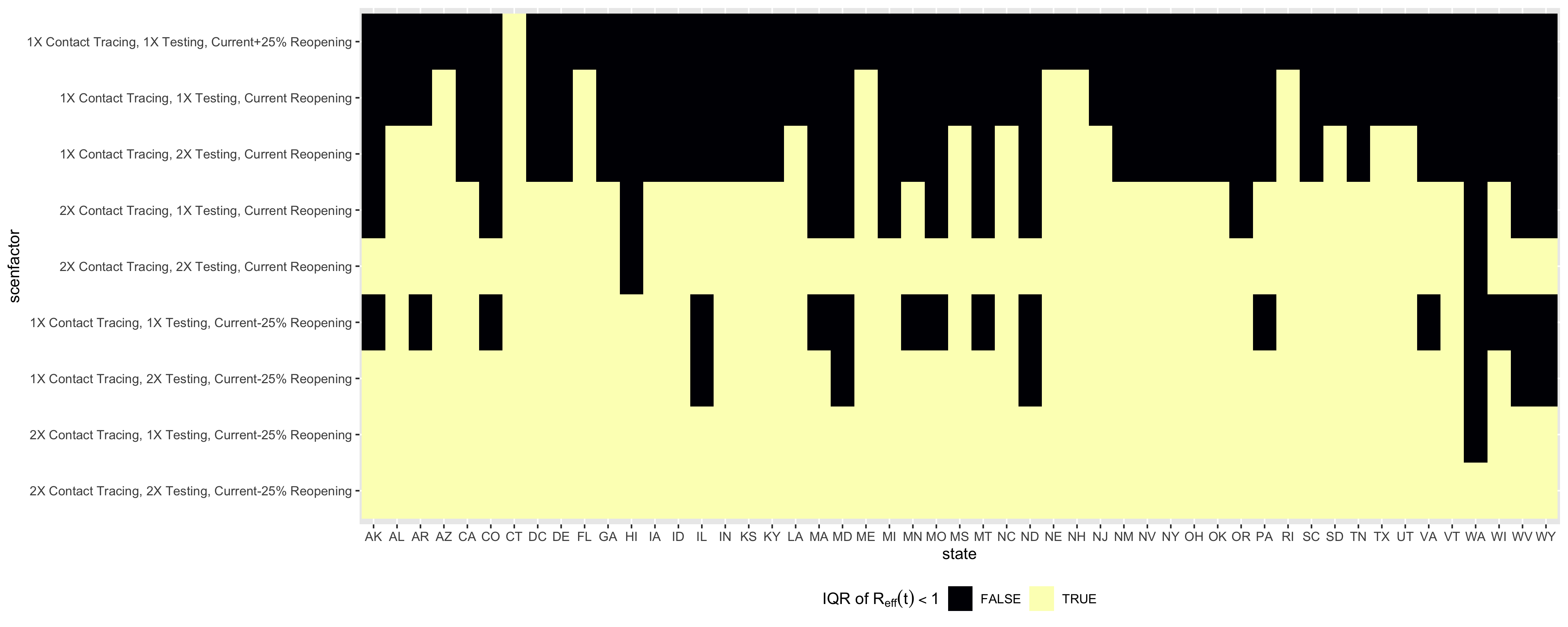
Weihsueh Chiu

2020-07-31

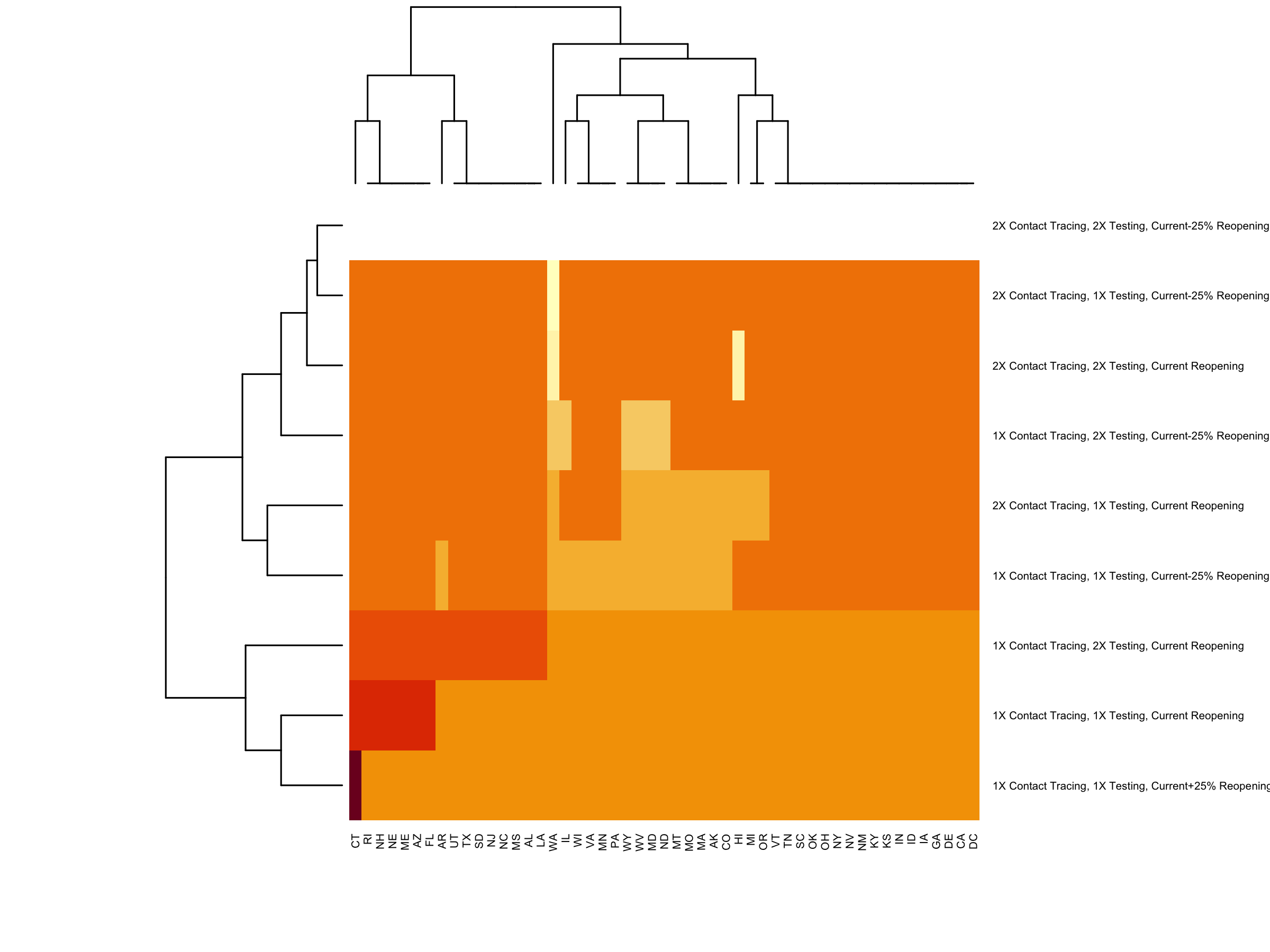
## Load data

## Impact of different scenarios on daily cases and deaths for selected states

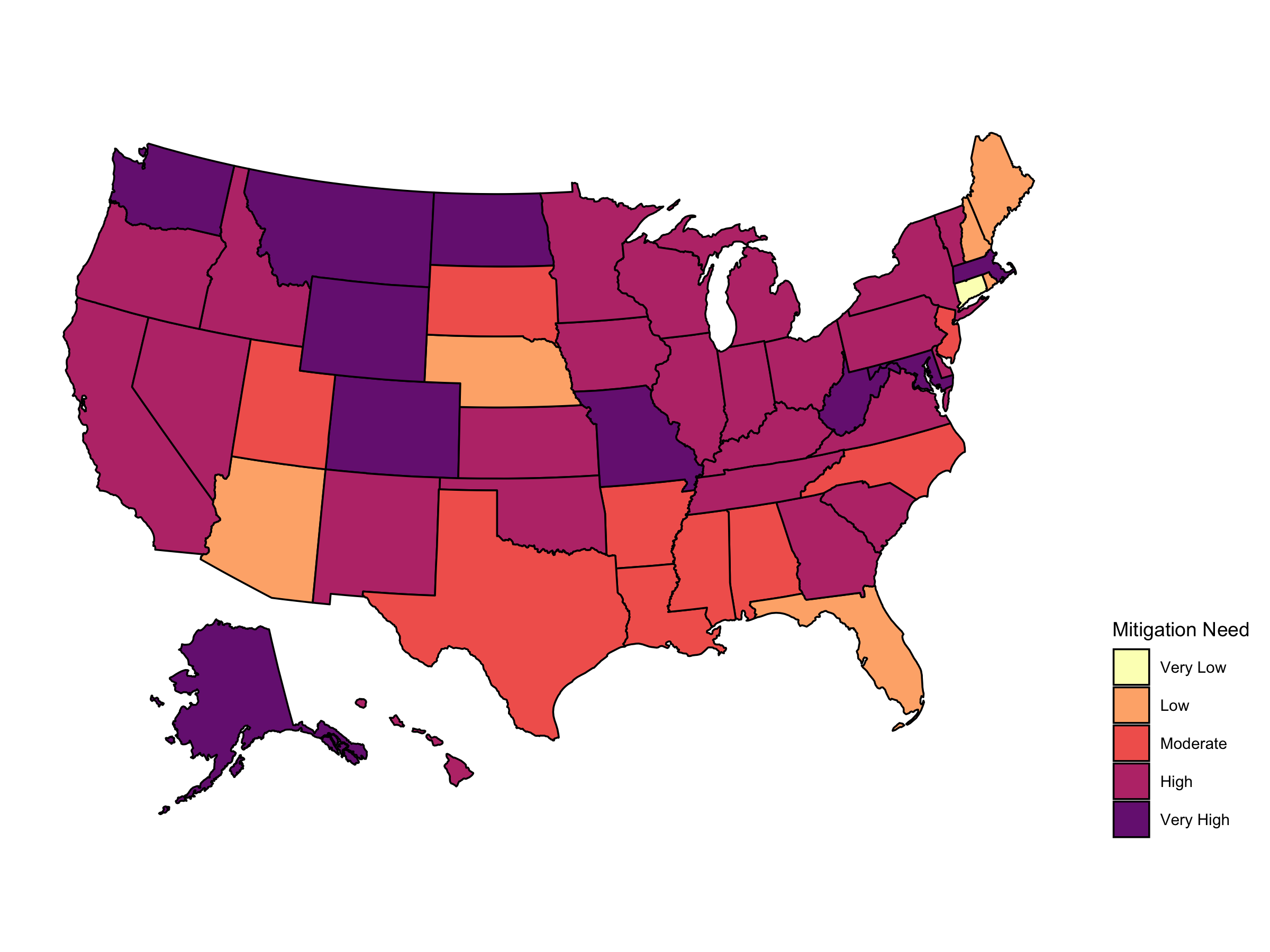




Reffscendat.wide<-spread(Reffscendat[,c("state","scenfactor","R.le.1")],scenfactor,R.le.1)  
Grade.df <- data.frame(state=Reffscendat.wide$state)  
Grade.df$value<-"Very High"  
  
### Very Low = can reopen > 25%  
Grade.df$value[Reffscendat.wide$`1X Contact Tracing, 1X Testing, Current+25% Reopening`==1] <- "Very Low"  
### Low = can reopen < 25%  
Grade.df$value[Reffscendat.wide$`1X Contact Tracing, 1X Testing, Current+25% Reopening`==0 &  
 Reffscendat.wide$`1X Contact Tracing, 1X Testing, Current Reopening`==1] <- "Low"  
### Moderate = can reopen with testing  
Grade.df$value[Reffscendat.wide$`1X Contact Tracing, 1X Testing, Current+25% Reopening`==0 &  
 Reffscendat.wide$`1X Contact Tracing, 1X Testing, Current Reopening`==0 &  
 Reffscendat.wide$`1X Contact Tracing, 2X Testing, Current Reopening`==1] <- "Moderate"  
### High = can reopen with contact tracing, or sheltering, but not with testing  
Grade.df$value[Reffscendat.wide$`1X Contact Tracing, 1X Testing, Current+25% Reopening`==0 &  
 Reffscendat.wide$`1X Contact Tracing, 1X Testing, Current Reopening`==0 &  
 Reffscendat.wide$`1X Contact Tracing, 2X Testing, Current Reopening`==0 &  
 (Reffscendat.wide$`2X Contact Tracing, 1X Testing, Current Reopening`==1 |  
 Reffscendat.wide$`1X Contact Tracing, 1X Testing, Current-25% Reopening`==1)] <- "High"  
### Very high = everything else  
Grade.df$value <- factor(Grade.df$value,levels=  
 c("Very Low","Low","Moderate","High","Very High"))  
  
  
# Grade.df$value[Reffscendat.wide$`1X Contact Tracing, 1X Testing, Current+25% Reopening`==1] <- "None"  
# Grade.df$value[Reffscendat.wide$`1X Contact Tracing, 1X Testing, Current+25% Reopening`==0 &  
# Reffscendat.wide$`1X Contact Tracing, 1X Testing, Current Reopening`==1] <- "Low"  
# Grade.df$value[Reffscendat.wide$`1X Contact Tracing, 1X Testing, Current+25% Reopening`==0 &  
# Reffscendat.wide$`1X Contact Tracing, 1X Testing, Current Reopening`==0 &  
# (Reffscendat.wide$`1X Contact Tracing, 2X Testing, Current Reopening`==1 |  
# Reffscendat.wide$`2X Contact Tracing, 1X Testing, Current Reopening`==1)] <- "Moderate"  
# Grade.df$value[Reffscendat.wide$`1X Contact Tracing, 1X Testing, Current+25% Reopening`==0 &  
# Reffscendat.wide$`1X Contact Tracing, 1X Testing, Current Reopening`==0 &  
# (Reffscendat.wide$`1X Contact Tracing, 2X Testing, Current Reopening`==0 &  
# Reffscendat.wide$`2X Contact Tracing, 1X Testing, Current Reopening`==0) &  
# (Reffscendat.wide$`2X Contact Tracing, 2X Testing, Current Reopening`==1 |  
# Reffscendat.wide$`1X Contact Tracing, 1X Testing, Current-25% Reopening`==1)] <- "High"  
# Grade.df$value <- factor(Grade.df$value,levels=  
# c("None","Low","Moderate","High","Very High"))  
  
Reffscendat.mat<-as.matrix(Reffscendat.wide[,-1])  
rownames(Reffscendat.mat)<-Reffscendat.wide[,1]  
heatmap(t(Reffscendat.mat),cexRow = 0.5,cexCol = 0.5)



Reffscendat$stateorder <- factor(Reffscendat$state,  
 levels=Grade.df$state[order(Grade.df$value)])  
porder<-ggplot(Reffscendat,aes(stateorder,scenfactor))+geom\_tile(aes(fill=(R.le.1==1)))+  
 scale\_fill\_viridis\_d(option="magma")  
#ggsave("heatmaporder.pdf",porder,height=5,width=15)  
  
  
  
  
pusa<-plot\_usmap(data = Grade.df, values = "value") +   
 scale\_fill\_viridis\_d(name = "Mitigation Need", option="magma",direction=-1,begin=0.35) +   
 theme(legend.position = "right")  
print(pusa)



# ggsave("Fig5A\_MitigationNeed.pdf",plot=pusa,height=4,width=6)  
# ggsave("Fig5A\_MitigationNeed.jpeg",plot=pusa,height=4,width=6)  
#   
# write.csv(x = Grade.df,file="MitigationGrades.csv",row.names = FALSE)

