

epiChart

Allison Collins

4/2/2020

Load data from the simulations

```
#load + concatenate the csvs
df <- list.files(path = "epi_csvs",full.names = TRUE) %>%
  lapply(read_csv) %>%
  bind_rows
```

```
## Parsed with column specification:
## cols(
##   `#dummy file` = col_character()
## )
```

```
## Parsed with column specification:
## cols(
##   X1 = col_integer(),
##   time = col_integer(),
##   S = col_double(),
##   E = col_double(),
##   I = col_double(),
##   H = col_double(),
##   C = col_double(),
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##   D = col_double(),
##   hosp = col_double(),
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##   time = col_integer(),
##   S = col_double(),
##   E = col_double(),
##   I = col_double(),
##   H = col_double(),
##   C = col_double(),
##   R = col_double(),
##   D = col_double(),
##   hosp = col_double(),
##   crits = col_double()
## )
## Parsed with column specification:
## cols(
##   X1 = col_integer(),
##   time = col_integer(),
##   S = col_double(),
##   E = col_double(),
##   I = col_double(),
##   H = col_double(),
##   C = col_double(),
##   R = col_double(),
##   D = col_double(),
##   hosp = col_double(),
##   crits = col_double()
## )
## Parsed with column specification:
## cols(
##   X1 = col_integer(),
##   time = col_integer(),
##   S = col_double(),
##   E = col_double(),
##   I = col_double(),
##   H = col_double(),
##   C = col_double(),
##   R = col_double(),
##   D = col_double(),
##   hosp = col_double(),
##   crits = col_double()
## )
## Parsed with column specification:
## cols(
##   X1 = col_integer(),
##   time = col_integer(),
##   S = col_double(),

```



```

## E = col_double(),
## I = col_double(),
## H = col_double(),
## C = col_double(),
## R = col_double(),
## D = col_double(),
## hosp = col_double(),
## crits = col_double()
## )

## Parsed with column specification:
## cols(
##   X1 = col_integer(),
##   time = col_integer(),
##   S = col_integer(),
##   E = col_integer(),
##   I = col_double(),
##   H = col_integer(),
##   C = col_integer(),
##   R = col_double(),
##   D = col_integer(),
##   hosp = col_integer(),
##   crits = col_integer()
## )

## Parsed with column specification:
## cols(
##   X1 = col_integer(),
##   time = col_integer(),
##   S = col_double(),
##   E = col_double(),
##   I = col_double(),
##   H = col_double(),
##   C = col_double(),
##   R = col_double(),
##   D = col_double(),
##   hosp = col_double(),
##   crits = col_double()
## )

## Parsed with column specification:
## cols(
##   X1 = col_integer(),
##   time = col_integer(),
##   S = col_double(),
##   E = col_double(),
##   I = col_double(),
##   H = col_double(),
##   C = col_double(),
##   R = col_double(),
##   D = col_double(),
##   hosp = col_double(),
##   crits = col_double()
## )

## Parsed with column specification:
## cols(

```

```

## X1 = col_integer(),
## time = col_integer(),
## S = col_double(),
## E = col_double(),
## I = col_double(),
## H = col_double(),
## C = col_double(),
## R = col_double(),
## D = col_double(),
## hosp = col_double(),
## crits = col_double()
## )
## Parsed with column specification:
## cols(
##   X1 = col_integer(),
##   time = col_integer(),
##   S = col_double(),
##   E = col_double(),
##   I = col_double(),
##   H = col_double(),
##   C = col_double(),
##   R = col_double(),
##   D = col_double(),
##   hosp = col_double(),
##   crits = col_double()
## )
## Parsed with column specification:
## cols(
##   X1 = col_integer(),
##   time = col_integer(),
##   S = col_double(),
##   E = col_double(),
##   I = col_double(),
##   H = col_double(),
##   C = col_double(),
##   R = col_double(),
##   D = col_double(),
##   hosp = col_double(),
##   crits = col_double()
## )
## Parsed with column specification:
## cols(
##   X1 = col_integer(),
##   time = col_integer(),
##   S = col_double(),
##   E = col_double(),
##   I = col_double(),
##   H = col_double(),
##   C = col_double(),
##   R = col_double(),
##   D = col_double(),
##   hosp = col_double(),
##   crits = col_double()
## )

```

```

## Parsed with column specification:
## cols(
##   X1 = col_integer(),
##   time = col_integer(),
##   S = col_double(),
##   E = col_double(),
##   I = col_double(),
##   H = col_double(),
##   C = col_double(),
##   R = col_double(),
##   D = col_double(),
##   hosp = col_double(),
##   crits = col_double()
## )
## Parsed with column specification:
## cols(
##   X1 = col_integer(),
##   time = col_integer(),
##   S = col_double(),
##   E = col_double(),
##   I = col_double(),
##   H = col_double(),
##   C = col_double(),
##   R = col_double(),
##   D = col_double(),
##   hosp = col_double(),
##   crits = col_double()
## )
## Parsed with column specification:
## cols(
##   X1 = col_integer(),
##   time = col_integer(),
##   S = col_double(),
##   E = col_double(),
##   I = col_double(),
##   H = col_double(),
##   C = col_double(),
##   R = col_double(),
##   D = col_double(),
##   hosp = col_double(),
##   crits = col_double()
## )
## Parsed with column specification:
## cols(
##   X1 = col_integer(),
##   time = col_integer(),
##   S = col_double(),
##   E = col_double(),
##   I = col_double(),
##   H = col_double(),
##   C = col_double(),
##   R = col_double(),
##   D = col_double(),
##   hosp = col_double(),

```

```

## crits = col_double()
## )
## Parsed with column specification:
## cols(
##   X1 = col_integer(),
##   time = col_integer(),
##   S = col_double(),
##   E = col_double(),
##   I = col_double(),
##   H = col_double(),
##   C = col_double(),
##   R = col_double(),
##   D = col_double(),
##   hosp = col_double(),
##   crits = col_double()
## )
## Parsed with column specification:
## cols(
##   X1 = col_integer(),
##   time = col_integer(),
##   S = col_double(),
##   E = col_double(),
##   I = col_double(),
##   H = col_double(),
##   C = col_double(),
##   R = col_double(),
##   D = col_double(),
##   hosp = col_double(),
##   crits = col_double()
## )
## Parsed with column specification:
## cols(
##   X1 = col_integer(),
##   time = col_integer(),
##   S = col_double(),
##   E = col_double(),
##   I = col_double(),
##   H = col_double(),
##   C = col_double(),
##   R = col_double(),
##   D = col_double(),
##   hosp = col_double(),
##   crits = col_double()
## )
## Parsed with column specification:
## cols(
##   X1 = col_integer(),
##   time = col_integer(),
##   S = col_double(),
##   E = col_double(),
##   I = col_double(),
##   H = col_double(),
##   C = col_double(),
##   R = col_double(),
##   D = col_double(),
##   hosp = col_double(),
##   crits = col_double()
## )
## Parsed with column specification:
## cols(
##   X1 = col_integer(),
##   time = col_integer(),
##   S = col_double(),
##   E = col_double(),
##   I = col_double(),
##   H = col_double(),
##   C = col_double(),
##   R = col_double(),
##   D = col_double(),
##   hosp = col_double(),
##   crits = col_double()
## )

```

```

## D = col_double(),
## hosp = col_double(),
## crits = col_double()
## )
## Parsed with column specification:
## cols(
##   X1 = col_integer(),
##   time = col_integer(),
##   S = col_double(),
##   E = col_double(),
##   I = col_double(),
##   H = col_double(),
##   C = col_double(),
##   R = col_double(),
##   D = col_double(),
##   hosp = col_double(),
##   crits = col_double()
## )
## Parsed with column specification:
## cols(
##   X1 = col_integer(),
##   time = col_integer(),
##   S = col_double(),
##   E = col_double(),
##   I = col_double(),
##   H = col_double(),
##   C = col_double(),
##   R = col_double(),
##   D = col_double(),
##   hosp = col_double(),
##   crits = col_double()
## )
## Parsed with column specification:
## cols(
##   X1 = col_integer(),
##   time = col_integer(),
##   S = col_double(),
##   E = col_double(),
##   I = col_double(),
##   H = col_double(),
##   C = col_double(),
##   R = col_double(),
##   D = col_double(),
##   hosp = col_double(),
##   crits = col_double()
## )
## Parsed with column specification:
## cols(
##   X1 = col_integer(),
##   time = col_integer(),
##   S = col_double(),
##   E = col_double(),
##   I = col_double(),
##   H = col_double(),

```

```
## C = col_double(),
## R = col_double(),
## D = col_double(),
## hosp = col_double(),
## crits = col_double()
## )
## Parsed with column specification:
## cols(
##   X1 = col_integer(),
##   time = col_integer(),
##   S = col_double(),
##   E = col_double(),
##   I = col_double(),
##   H = col_double(),
##   C = col_double(),
##   R = col_double(),
##   D = col_double(),
##   hosp = col_double(),
##   crits = col_double()
## )

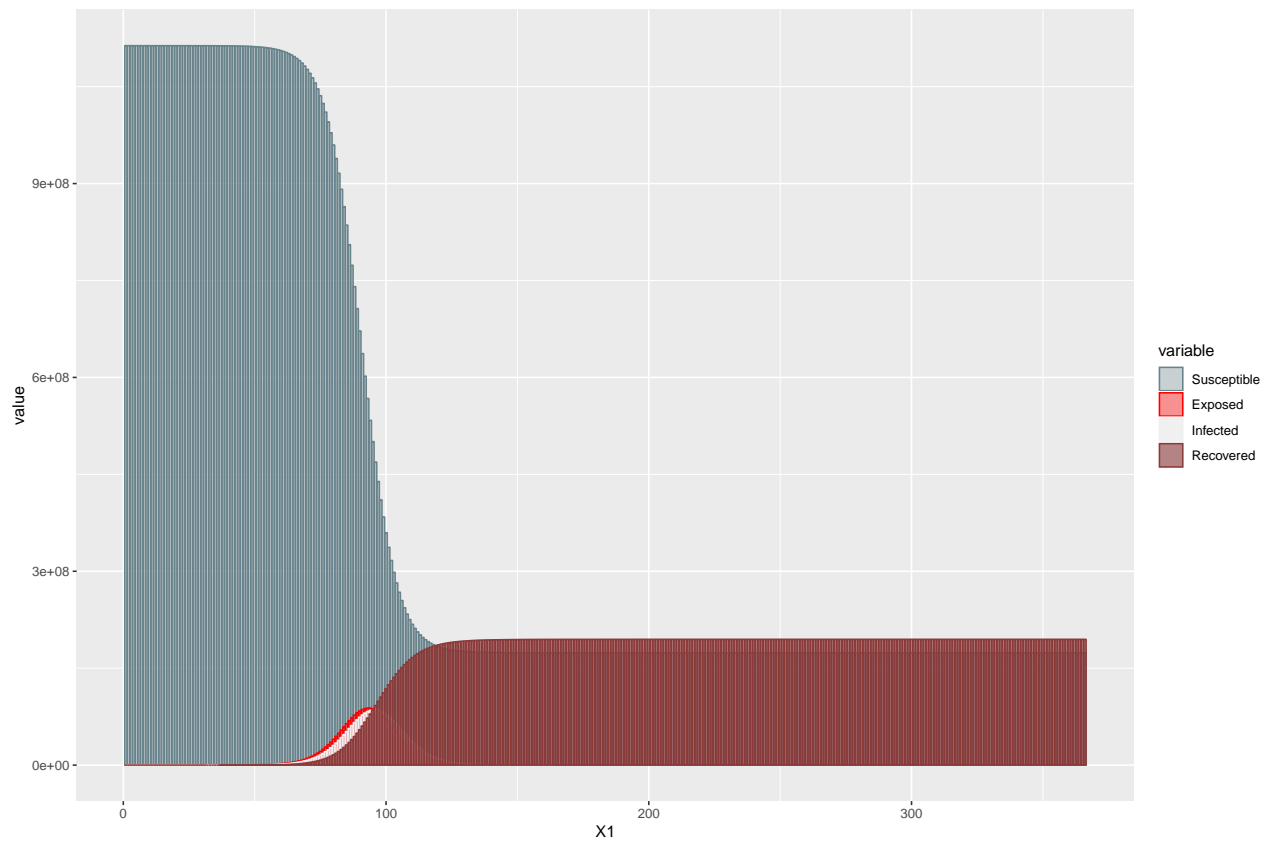
#create summary dataframe
new_df <- df %>%
  group_by(X1) %>%
  summarise(Susceptible = sum(S), Exposed = sum(E), Infected = sum(I), Recovered = sum(R))
```

Make chart

```
longData <- melt(new_df, id = c("X1"))

longData$variable <- factor(longData$variable,
  levels = c("Susceptible", "Exposed", "Infected", "Recovered"))

ggplot(data=longData %>% arrange(variable),
  aes(x=X1, y=value, fill=variable, color=variable, alpha=variable)) +
  geom_bar(stat="identity", position = "identity") +
  scale_colour_manual(values=c("lightblue4", "red", "gray94", "indianred4", "lightslateblue")) +
  scale_fill_manual(values=c("lightblue4", "red", "gray94", "indianred4", "lightslateblue")) +
  scale_alpha_manual(values=c(.3, .4, .5, .6, .7, .8))
```



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.