Cloglog

###https://stackoverflow.com/questions/22422687/r-survival-package-plotting-log-logsurvival-against-logtime

DATA

```
stroke <- read.csv("actual data/Stroke Egresos MINSA 2002-2017.csv") %>%
  rename_all(funs(stringr::str_to_lower(.))) %>% mutate_if(is.factor, as.character)
```

```
## Warning: `funs()` is deprecated as of dplyr 0.8.0.
## Please use a list of either functions or lambdas:
##
##   # Simple named list:
##   list(mean = mean, median = median)
##
##   # Auto named with `tibble::lst()`:
##   tibble::lst(mean, median)
##
##   # Using lambdas
##   list(~ mean(., trim = .2), ~ median(., na.rm = TRUE))
## This warning is displayed once every 8 hours.
## Call `lifecycle::last_warnings()` to see where this warning was generated.
```

```
y2016deaths <- stroke %>% filter(anio %in% c("2016","2017")) %>% mutate(cid10=substr(cod_enf,1,3)) %>%
               filter(cid10 %in% c("I60","I61","I63","I64") & condicion %in% c("1","5") & t_edad==1 & e
y2016deaths$ingreso <- y2016deaths$f_ingre %>% ymd()
y2016deaths$egreso <- y2016deaths$f_egres %>% ymd()
y2016deaths <- subset(y2016deaths, select = -c(f_ingre, f_egres))
y2016deaths$los <- as.numeric(difftime(y2016deaths$egreso, y2016deaths$ingreso, units = c("days")))
y2016deaths$los <- ifelse(y2016deaths$los<0, as.numeric(difftime(y2016deaths$ingreso,y2016deaths$egreso
quantile(y2016deaths$los, c(.01, .99), na.rm = TRUE)
```

```
##  1% 99%
##   0  60
```

```
y2016deaths <- y2016deaths[which(y2016deaths$los>0 & y2016deaths$los<60 & !is.na(y2016deaths$los)), ]

y2016deaths$condicion[y2016deaths$condicion == 1] <- 0
y2016deaths$condicion[y2016deaths$condicion == 5] <- 1
y2016deaths$cid10 <- as.factor(y2016deaths$cid10)
```

OBJECT SURV

```
gehansurv=Surv(y2016deaths$los, y2016deaths$condicion)
str(gehansurv)
```

```
##  'Surv' num [1:6566, 1:2]  2+  1+ 28+ 14+  2+  7+ 10+  3+ 12+ 11+ ...
##  - attr(*, "dimnames")=List of 2
##   ..$ : NULL
##   ..$ : chr [1:2] "time" "status"
##  - attr(*, "type")= chr "right"
```

PLOT

```
levels(y2016deaths$cid10)
```

```
## [1] "I60" "I61" "I63" "I64"
```

```
plot(survfit(gehansurv ~ y2016deaths$cid10), col=c("black", "red", "orange", "green"), fun="cloglog")
```