Chapter 6

Additional Notes:
Plotting the log cumulative hazard

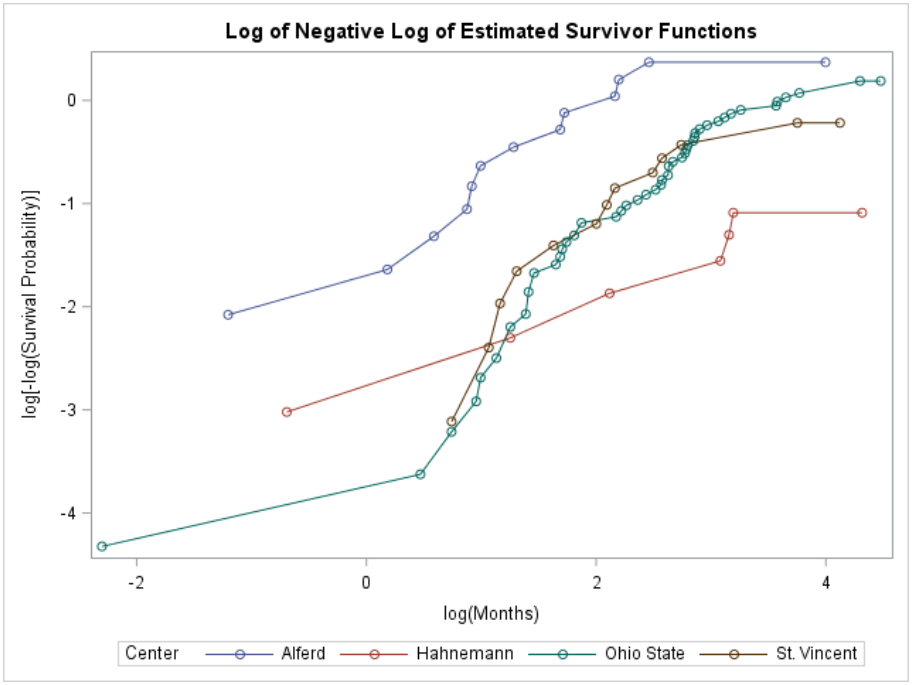
Log Cumulative Hazard Plots

- Depending on your version of SAS, you may get strange results when calculating and plotting the cumulative hazard function if you have any observations with a survival time of zero.
  - Data from Homework 3

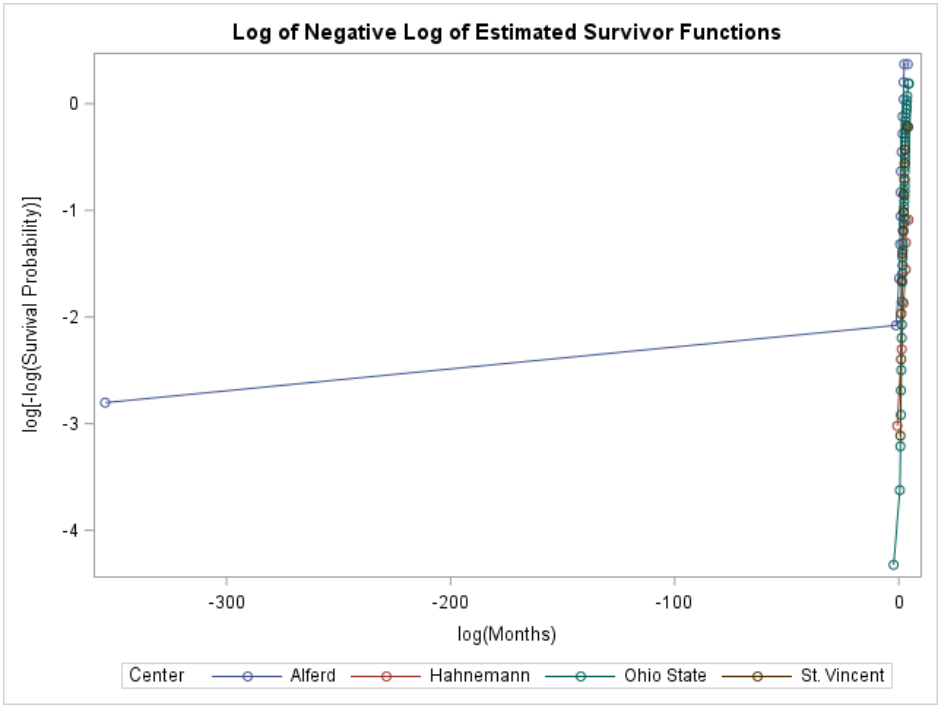
ID	Group	Months	Died	Center
35	ALL	0	1	Alferd

Plot Comparison

- SAS 14.1



- SAS 14.3



Correcting the Figure

- Use the ODS Output system to save the values used to create the figure.
  - The command in blue text will create a dataset named “loglogsurv”.

```
proc lifetest data=BST665.Bone_Marrow plots=lls outsurv=surv;
strata Center;
time Months*Died(0);
ods output logneglogsurvivalplot=loglogsurv;
run;
```

Correcting the Figure

- Use a DATA step to set the logs for any zero (or very small) survival times to missing.
- PROC GPLOT can then be used to create the corrected figure.

```
data loglogsurv;
set loglogsurv;
if time < 0.0001 then LOG_TIME_ = . ;
label LOG_TIME_ = "log(Months)"
      LOG___LOG_SURVIVAL___="log[-log(Survival Probability)]";
run;

symbol1 interpol=join value=dot;
proc gplot data=loglogsurv;
plot LOG___LOG_SURVIVAL___*LOG_TIME_ = Stratum;
run; quit;
```