```
                                              __  __   __   __   ___(R)
                                             /_  /  /__/  /  /__/
                                            __/  /  /__/  /  /__/
                                              Statistics/Data analysis
```

```
  1 .
  2 . use finaldata_imputed_FINAL,clear

  3 .
  4 .
  5 . **STEP 14: FIGURE 2: COMPARE SURVIVAL PROBABILITIES ACROSS EXPOSURE (poorsleep_2006, create tertiles) AND MEDIA
  6 .
  7 . mi extract 0

  8 .
  9 . save finaldata_unimputed_FINAL, replace
    file finaldata_unimputed_FINAL.dta saved

 10 .
 11 .
 12 . stset ageevent if sample_final==1, failure(died==1) enter(AGE2006) origin(AGE2006) scale(1)

    Survival-time data settings

             Failure event: died==1
    Observed time interval: (origin, ageevent]
         Enter on or after: time AGE2006
         Exit on or before: failure
         Time for analysis: (time-origin)
                    Origin: time AGE2006
          Keep observations
                    if exp: sample_final==1

    _____

         43,561  total observations
         36,570  ignored at outset because of if exp
             40  event time missing (ageevent>=.)              PROBABLE ERROR
              6  observations end on or before enter()
    _____

          6,945  observations remaining, representing
          4,892  failures in single-record/single-failure data
     66,265.112  total analysis time at risk and under observation
                                             At risk from t =          0
                                    Earliest observed entry t =          0
                                        Last observed exit t =     15.658

 13 .
 14 .
 15 . stdescribe if sample_final==1

             Failure _d: died==1
       Analysis time _t: (ageevent-origin)
                 Origin: time AGE2006
       Enter on or after: time AGE2006
```

| | | ├─────── Per subject ───────┤ | | | |
Category	Total	Mean	Min	Median	Max
Number of subjects	6945				
Number of records	6945	1	1	1	1
Entry time (first)		0	0	0	0
Exit time (final)		9.541413	.0998611	10.10123	15.658

```
Subjects with gap                    0
Time on gap                          0
Time at risk             66265.112    9.541413    .0998611    10.10123    15.658

Failures                      4892    .7043916           0           1         1
```

16 . stsum if sample_final==1

```
          Failure _d: died==1
    Analysis time _t: (ageevent-origin)
              Origin: time AGE2006
    Enter on or after: time AGE2006
```

	Time at risk	Incidence rate	Number of subjects	Survival time 25%	50%	75%
Total	66,265.1117	.0738247	6945	5.187416	10.10123	.

17 . strate if sample_final==1

```
          Failure _d: died==1
    Analysis time _t: (ageevent-origin)
              Origin: time AGE2006
    Enter on or after: time AGE2006
```

Estimated failure rates
Number of records = 6945

D	Y	Rate	Lower	Upper
4892	6.6e+04	0.073825	0.071785	0.075923

```
   Notes: Rate = D/Y = failures/person-time.
          Lower and Upper are bounds of 95% confidence intervals.
```

18 .
19 . save, replace
   file **finaldata_unimputed_FINAL.dta** saved

20 .
21 .
22 . capture drop poorsleep_2006tert

23 . xtile poorsleep_2006tert=poorsleep_2006 if sample_final==1,nq(3)

24 .
25 . bysort poorsleep_2006tert: su poorsleep_2006 if sample_final==1,detail

_____

-> poorsleep_2006tert = 1

```
                    poorsleep_2006
_____

      Percentiles      Smallest
 1%            0              0
 5%            0              0
10%            0              0    Obs               2,372
25%            0              0    Sum of wgt.       2,372
```

	50%	**0**		Mean	**.489882**
			Largest	Std. dev.	**.500003**
	75%	**1**	**1**		
	90%	**1**	**1**	Variance	**.250003**
	95%	**1**	**1**	Skewness	**.0404805**
	99%	**1**	**1**	Kurtosis	**1.001639**

-> poorsleep_2006tert = 2

poorsleep_2006

	Percentiles	Smallest			
1%	**2**	**2**			
5%	**2**	**2**			
10%	**2**	**2**	Obs	**3,173**	
25%	**2**	**2**	Sum of wgt.	**3,173**	
50%	**3**		Mean	**2.895682**	
		Largest	Std. dev.	**.8125883**	
75%	**4**	**4**			
90%	**4**	**4**	Variance	**.6602998**	
95%	**4**	**4**	Skewness	**.1927942**	
99%	**4**	**4**	Kurtosis	**1.539746**	

-> poorsleep_2006tert = 3

poorsleep_2006

	Percentiles	Smallest			
1%	**5**	**5**			
5%	**5**	**5**			
10%	**5**	**5**	Obs	**1,446**	
25%	**5**	**5**	Sum of wgt.	**1,446**	
50%	**6**		Mean	**6.132089**	
		Largest	Std. dev.	**1.185194**	
75%	**7**	**9**			
90%	**8**	**9**	Variance	**1.404686**	
95%	**8**	**9**	Skewness	**.8089262**	
99%	**9**	**9**	Kurtosis	**2.648532**	

-> poorsleep_2006tert = .

poorsleep_2006

no observations

```
26 .
27 . save, replace
   file finaldata_unimputed_FINAL.dta saved

28 .
29 . sts test poorsleep_2006tert if sample_final==1, logrank

          Failure _d: died==1
    Analysis time _t: (ageevent-origin)
            Origin: time AGE2006
    Enter on or after: time AGE2006
   file C:\Users\baydounm\AppData\Local\Temp\ST_6434_000002.tmp already exists
   r(602);

   end of do-file

   r(602);

30 . do "C:\Users\baydounm\AppData\Local\Temp\STD6434_000000.tmp"

31 .
32 . sts test poorsleep_2006tert if sample_final==1, logrank

          Failure _d: died==1
    Analysis time _t: (ageevent-origin)
            Origin: time AGE2006
    Enter on or after: time AGE2006

   Equality of survivor functions
   Log-rank test
```

poorsleep_~t	Observed events	Expected events
1	1624	1684.20
2	2209	2240.75
3	1059	967.06
Total	4892	4892.00

$$chi2(2) = 11.35$$
$$Pr>chi2 = 0.0034$$

```
33 . sts graph if sample_final==1, by(poorsleep_2006tert)

          Failure _d: died==1
    Analysis time _t: (ageevent-origin)
            Origin: time AGE2006
    Enter on or after: time AGE2006

34 .
```

35 . graph save "FIGURE2A.gph", replace
   file **FIGURE2A.gph** saved

36 .
37 . sts test hurd_dem if sample_final==1, logrank

```
          Failure _d: died==1
    Analysis time _t: (ageevent-origin)
            Origin: time AGE2006
    Enter on or after: time AGE2006
```

Equality of survivor functions
Log-rank test

hurd_dem	Observed events	Expected events
0	3800	4513.15
1	1092	378.85
Total	4892	4892.00

```
            chi2(1) = 1490.81
            Pr>chi2 =  0.0000
```

38 . sts graph if sample_final==1, by(hurd_dem)

```
          Failure _d: died==1
    Analysis time _t: (ageevent-origin)
            Origin: time AGE2006
    Enter on or after: time AGE2006
```

39 .
40 .
41 . graph save "FIGURE2B.gph", replace
   file **FIGURE2B.gph** saved

42 .
43 .
44 . sts test expert_dem if sample_final==1, logrank

```
          Failure _d: died==1
    Analysis time _t: (ageevent-origin)
            Origin: time AGE2006
    Enter on or after: time AGE2006
```

Equality of survivor functions
Log-rank test

expert_dem	Observed events	Expected events
0	3768	4494.94
1	1124	397.06
Total	4892	4892.00

```
            chi2(1) = 1483.65
            Pr>chi2 =  0.0000
```

45 . sts graph if sample_final==1, by(expert_dem)

            Failure _d: **died==1**
     Analysis time _t: **(ageevent-origin)**
              Origin: **time AGE2006**
     Enter on or after: **time AGE2006**

46 .
47 .
48 . graph save "FIGURE2C.gph", replace
   file **FIGURE2C.gph** saved

49 .
50 .
51 . sts test lasso_dem if sample_final==1, logrank

            Failure _d: **died==1**
     Analysis time _t: **(ageevent-origin)**
              Origin: **time AGE2006**
     Enter on or after: **time AGE2006**

   Equality of survivor functions
   Log-rank test

lasso_dem	Observed events	Expected events
0	**3697**	**4440.75**
1	**1195**	**451.25**
Total	**4892**	**4892.00**

                  chi2(1) = **1381.29**
                  Pr>chi2 = **0.0000**

52 . sts graph if sample_final==1, by(lasso_dem)

            Failure _d: **died==1**
     Analysis time _t: **(ageevent-origin)**
              Origin: **time AGE2006**
     Enter on or after: **time AGE2006**

53 .
54 .
55 . graph save "FIGURE2D.gph", replace
   file **FIGURE2D.gph** saved

56 .
57 . graph combine "FIGURE2A.gph" "FIGURE2B.gph" "FIGURE2C.gph" "FIGURE2D.gph"

58 . graph save "FIGURE2.gph", replace
   file **FIGURE2.gph** saved

59 .
60 . capture log close