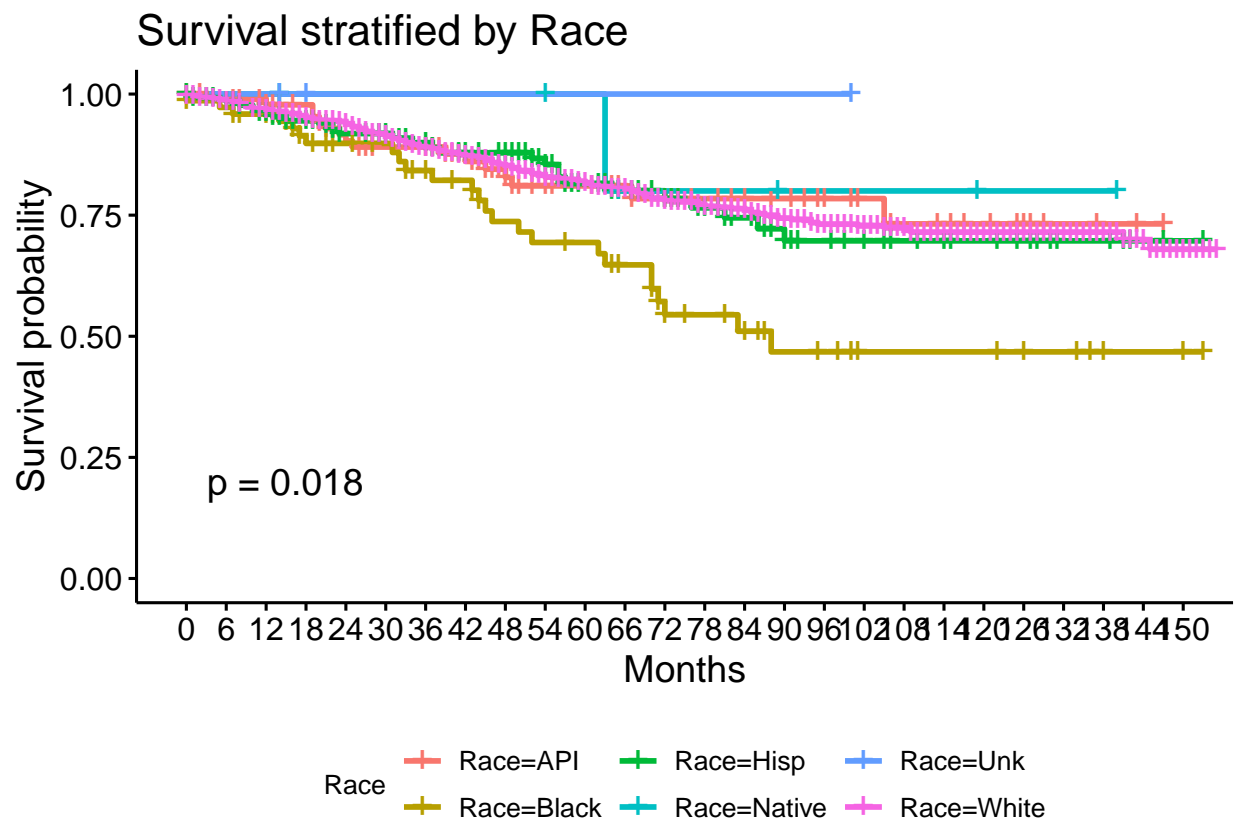# Early Ovarian Cancer

Kevin Kremer

9/24/2020

Early Stage High-Grade Serous Ovarian Cancer
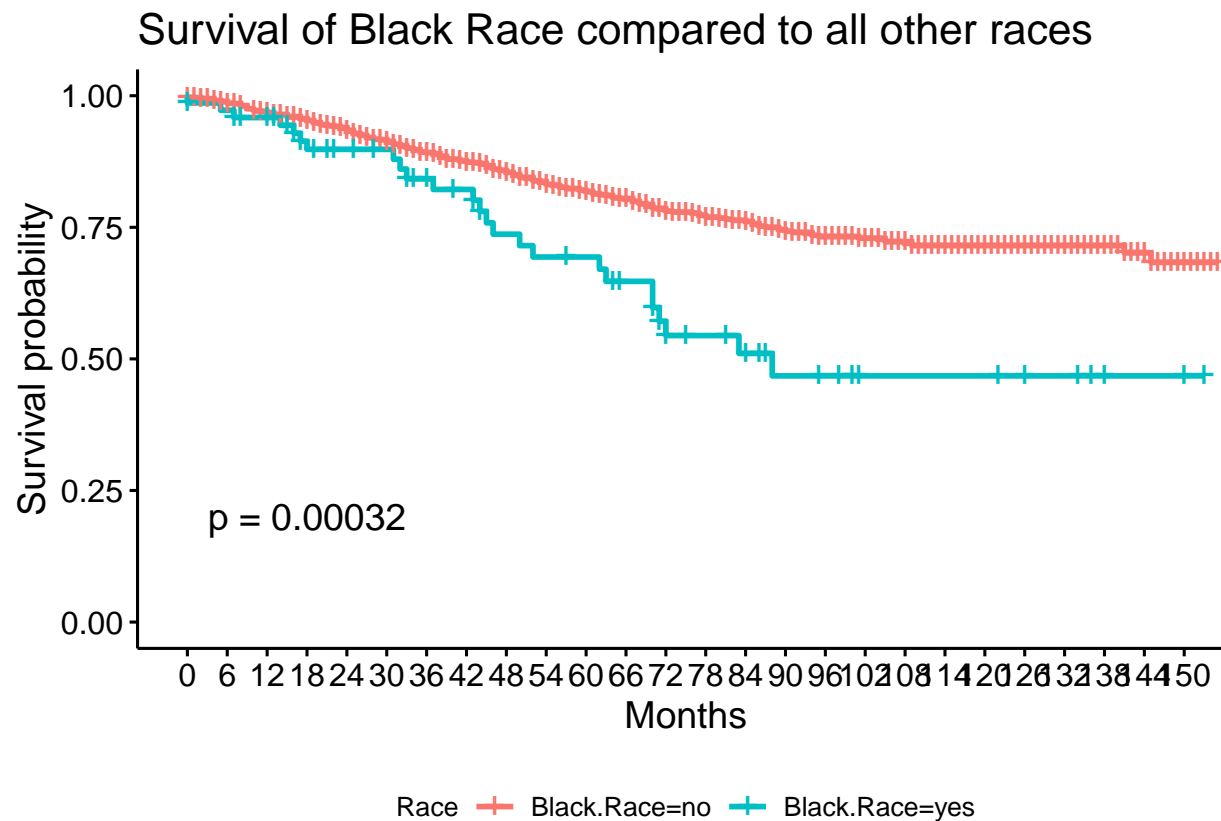
Survival based on race


```
table(HGS$Race)
```

```
##
##   API  Black   Hisp Native    Unk  White
##    94     73    137      7      3    956
```

Comparing Black Race to all other races

Survival of Black Race compared to all other races
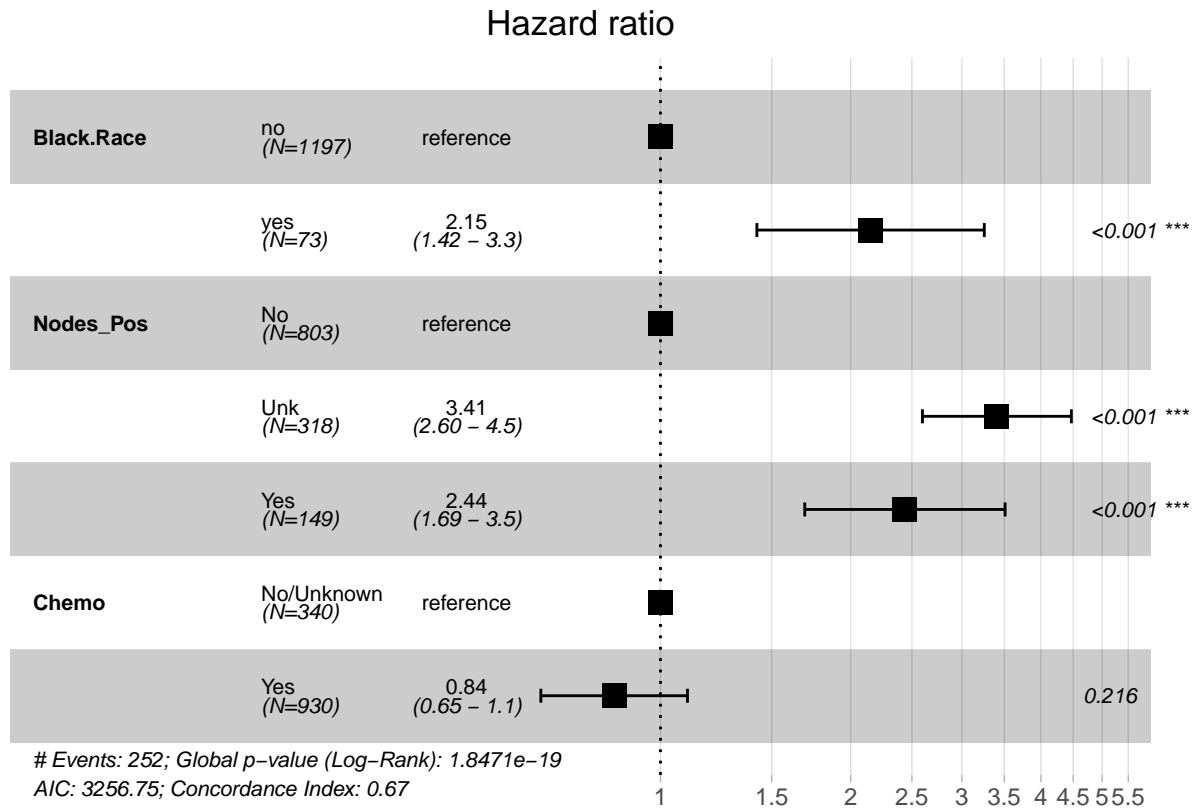


```
HGS.tbl <- table(HGS$Black.Race)
kbl(HGS.tbl, col.names = c("Black Race", "Count")) %>%
        kable_styling(bootstrap_options = "striped", full_width = F, position = "left")
```
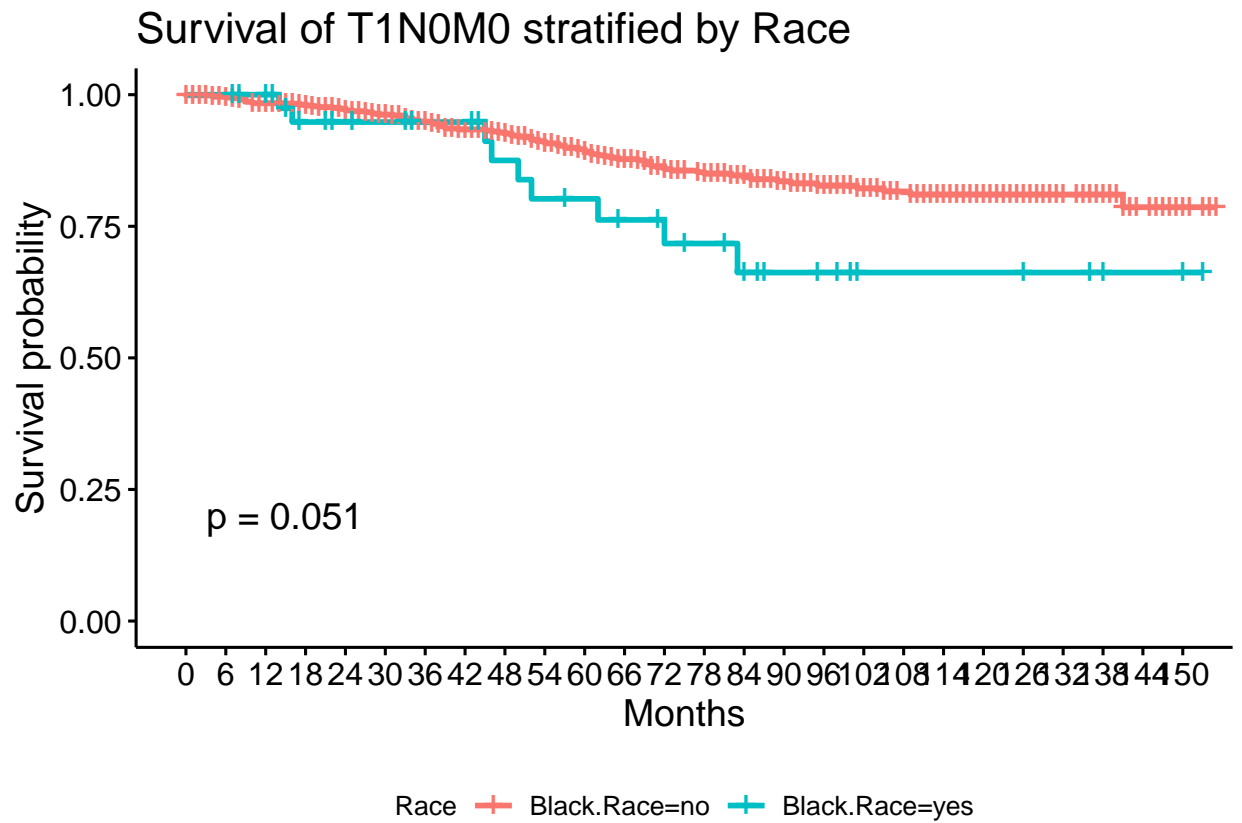
Black Race	Count
no	1197
yes	73

```
HGS.chemo.tbl <- table(HGS$Black.Race, HGS$Chemo)
kbl(HGS.chemo.tbl) %>%
        kable_styling(bootstrap_options = "striped", full_width = F, position = "left") %>%
        add_header_above(c("Black Race", "Chemo Received" = 2))
```
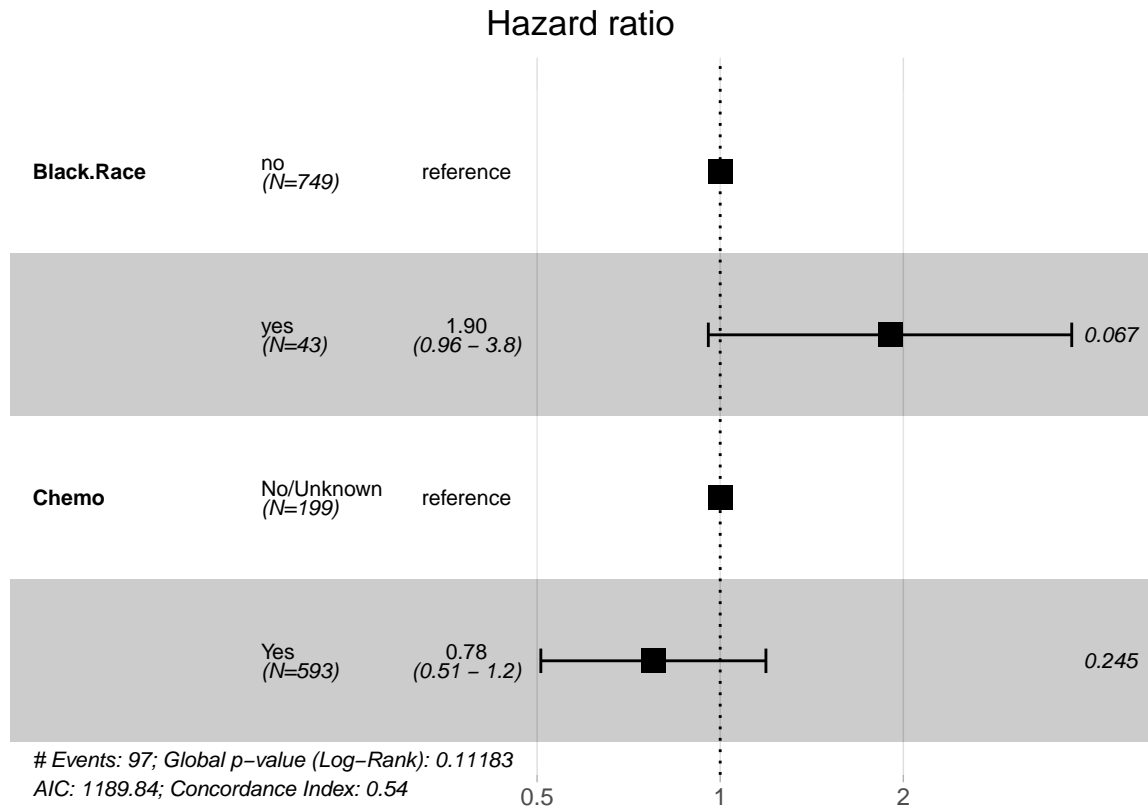
Black Race	Chemo Received	
	No/Unknown	Yes
no	317	880
yes	23	50

Hazard ratio

Black.Race	no (N=1197)	reference			
	yes (N=73)	2.15 (1.42 − 3.3)		<0.001 ***
Nodes_Pos	No (N=803)	reference			
	Unk (N=318)	3.41 (2.60 − 4.5)		<0.001 ***
	Yes (N=149)	2.44 (1.69 − 3.5)		<0.001 ***
Chemo	No/Unknown (N=340)	reference			
	Yes (N=930)	0.84 (0.65 − 1.1)		0.216

Events: 252; Global p−value (Log−Rank): 1.8471e−19
AIC: 3256.75; Concordance Index: 0.67

1   1.5   2   2.5   3   3.5   4   4.5   5 5.5

Broken down by Stage

Survival of T1N0M0 stratified by Race

p = 0.051

Race —+— Black.Race=no —+— Black.Race=yes

T1N0M0

```
table(T1.N0.M0.Black$Black.Race)
```

```
##
##  no yes
## 749  43
```

Hazard ratio

Black.Race	no (N=749)	reference			
	yes (N=43)	1.90 (0.96 – 3.8)			0.067
Chemo	No/Unknown (N=199)	reference			
	Yes (N=593)	0.78 (0.51 – 1.2)			0.245

 # Events: 97; Global p–value (Log–Rank): 0.11183
AIC: 1189.84; Concordance Index: 0.54

0.5   1   2

Survival of T1NxM0 stratified by Race

p = 0.00023

Race — Black.Race=no — Black.Race=yes
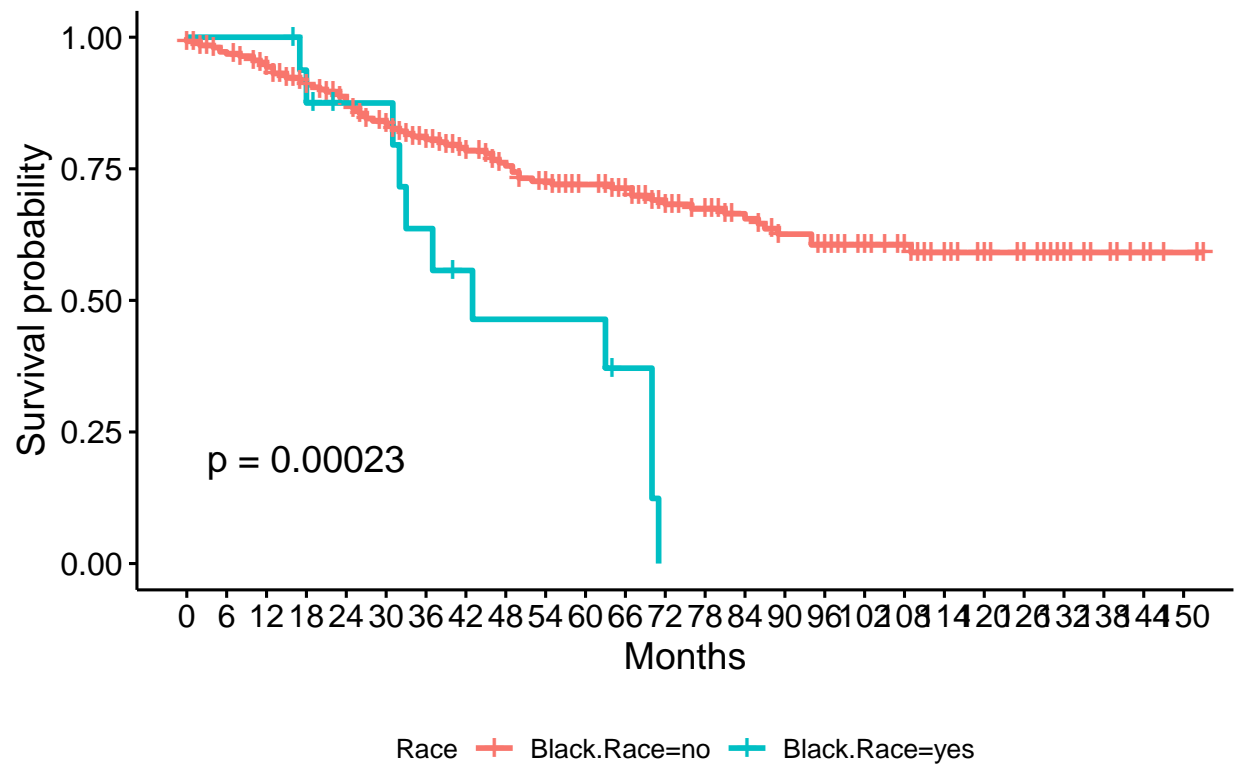
T1NxM0

Black Race	Chemo Received	
	No/Unknown	Yes
no	94	163
yes	3	14

Hazard ratio

Black.Race	no (N=257)	reference		
	yes (N=17)	3.22 (1.68 – 6.2)		<0.001 ***
Chemo	No/Unknown (N=97)	reference		
	Yes (N=177)	0.92 (0.59 – 1.4)		0.705

 # Events: 84; Global p–value (Log–Rank): 0.0082799
AIC: 846.84; Concordance Index: 0.54

1   2   5
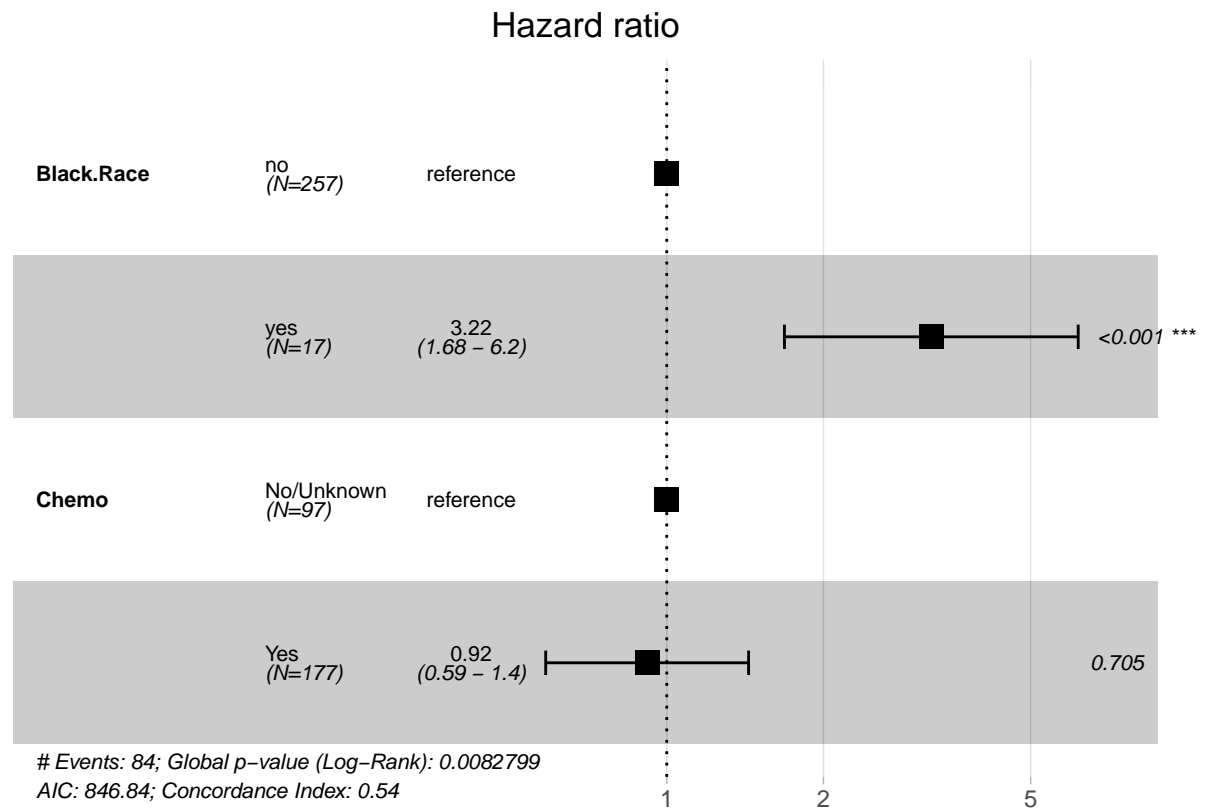
```r
table(T1.Nx.M0.Black$Black.Race, T1.Nx.M0.Black$Chemo)
```

```
##
##       No/Unknown Yes
##   no          94 163
##   yes          3  14
```
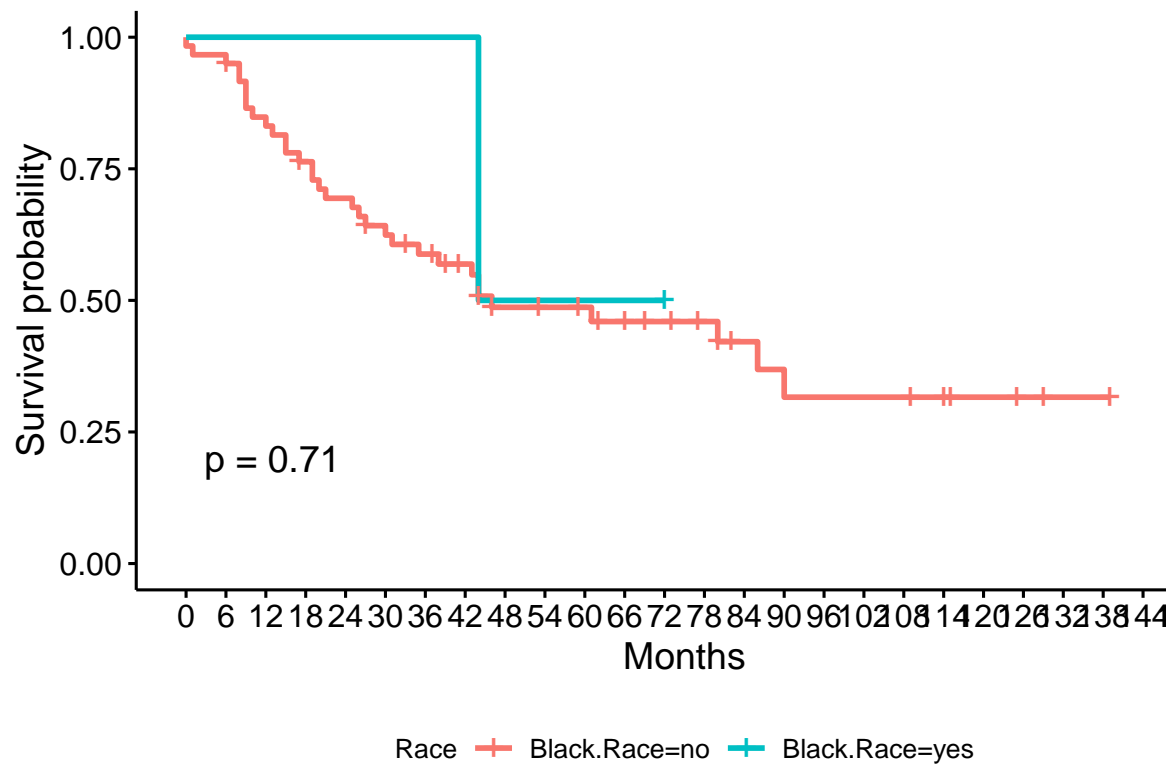
Survival of T1N1M0 stratified by Race
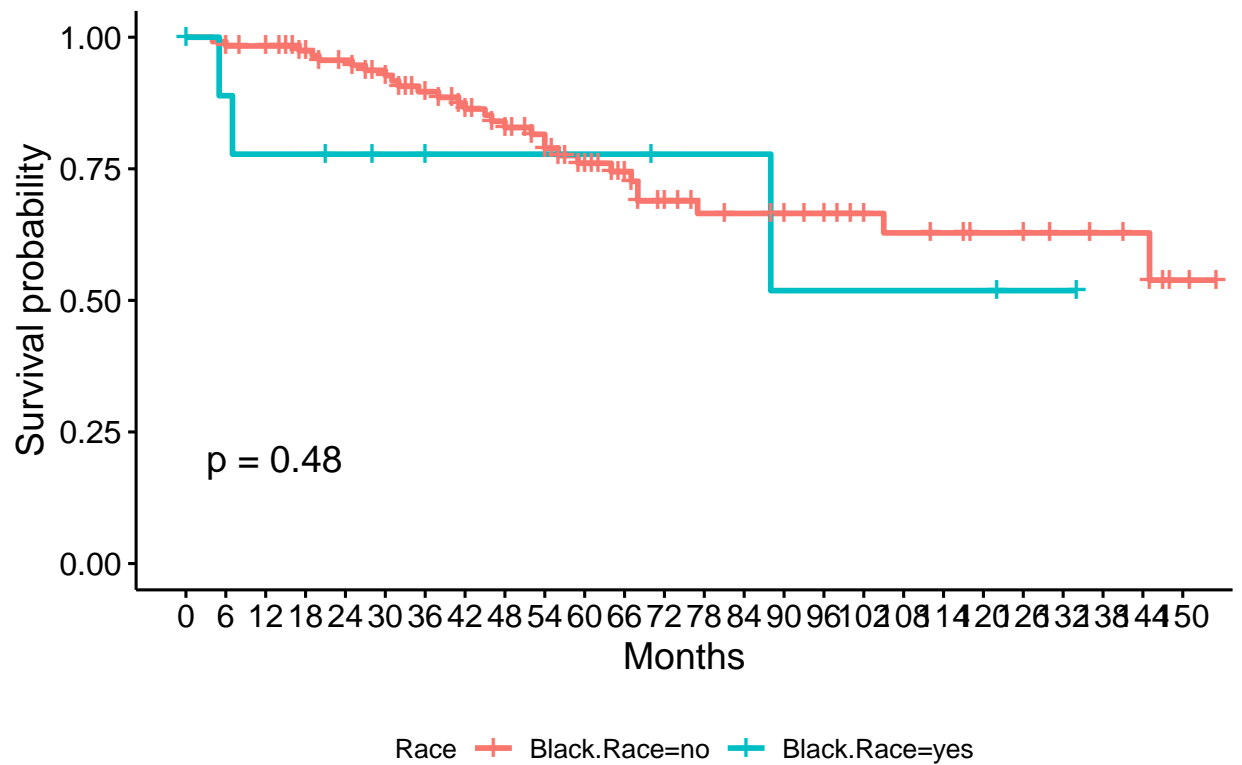
T1N1M0

```
table(T1.N1.M0.Black$Black.Race)
```

```
##
##  no yes
## 120  10
```

Hazard ratio

Black.Race	no (N=120)	reference		
	yes (N=10)	1.4 (0.43 – 4.8)		0.556
Chemo	No/Unknown (N=22)	reference		
	Yes (N=108)	0.7 (0.30 – 1.6)		0.414

 # Events: 32; Global p–value (Log–Rank): 0.59001
AIC: 273.52; Concordance Index: 0.56

0.1 0.2 0.5 1 2 5
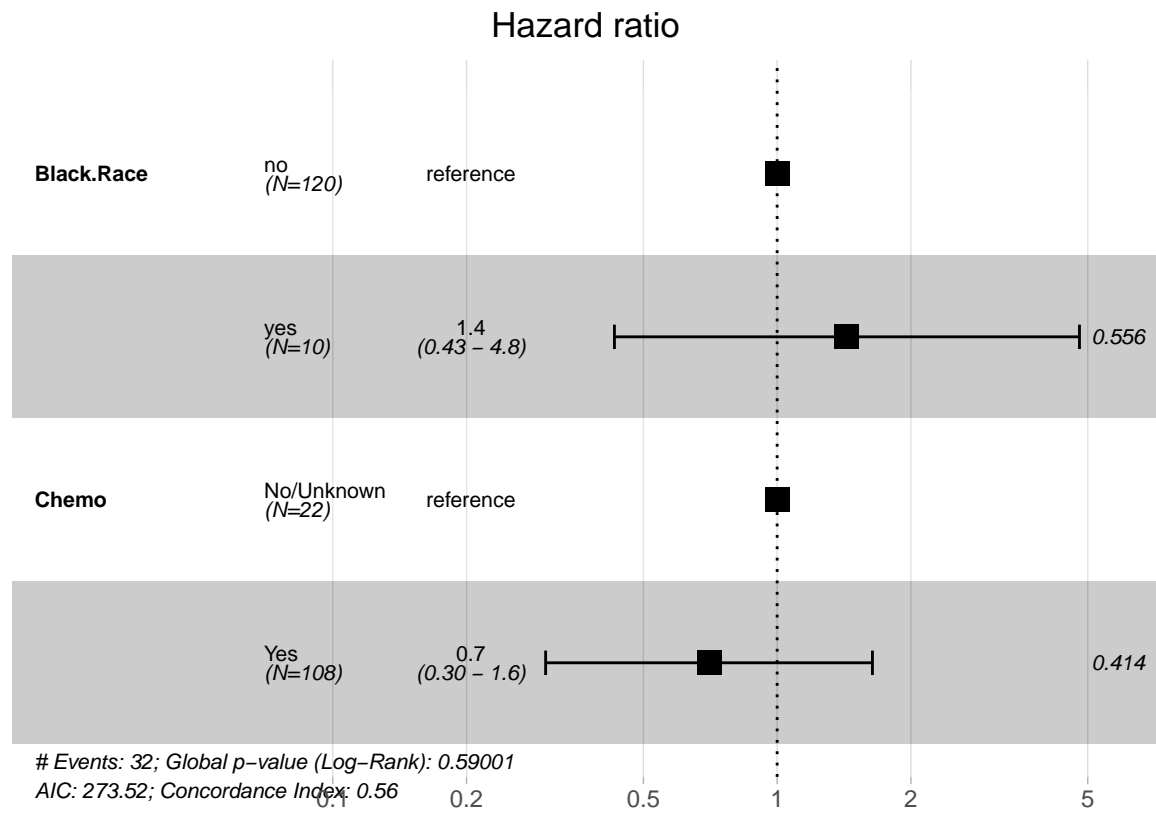
Survival of Metastatic disease stratified by Race

Metastatic Disease

```r
table(mets.Black$Black.Race)
```

```
## 
##  no yes
##  60   2
```

Broken down by whether or not chemotherapy was received

Survival of patients receiving chemotherapy stratified

p = 0.0035
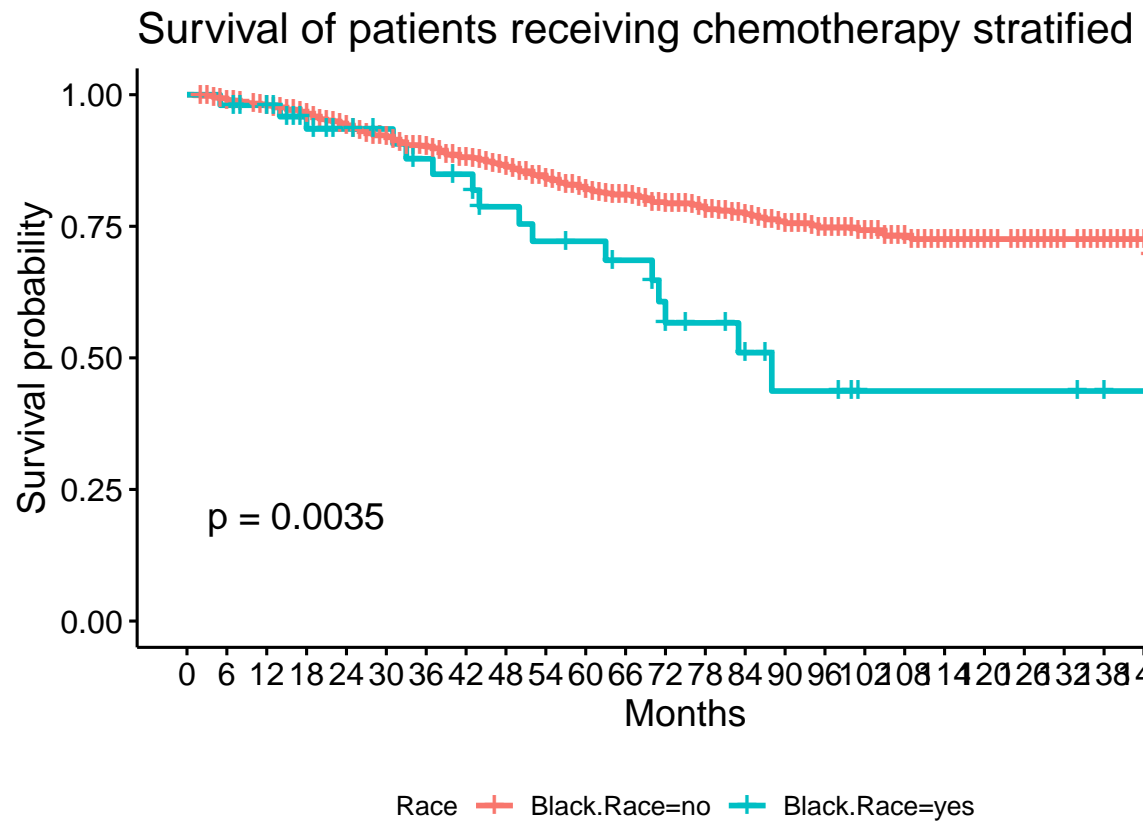
With Chemotherapy

```
table(chemo.Black$Black.Race)
```

```
## 
##  no yes
## 880  50
```

Survival of patients not receiving chemotherapy stra
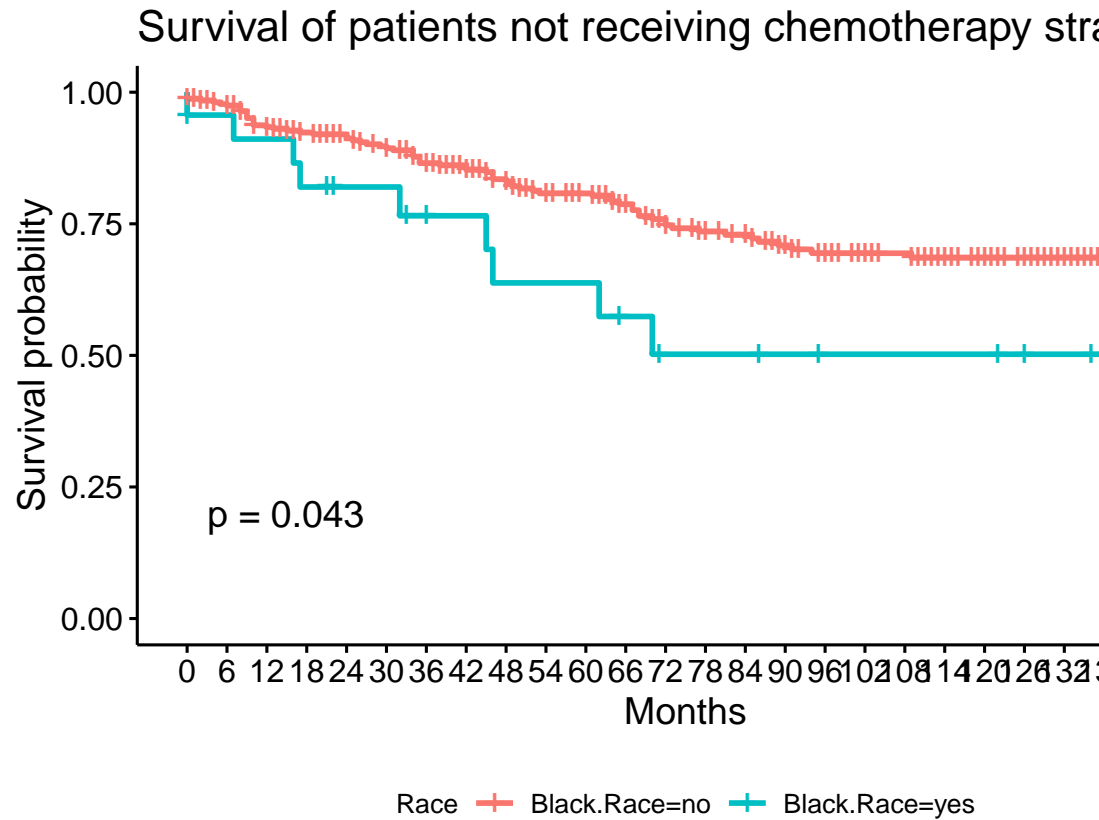
Without Chemotherapy

```r
table(nochemo.Black$Black.Race)
```

```
## 
##  no yes
## 317  23
```

Comparing only Black Race to White Race

Survival stratified by Race
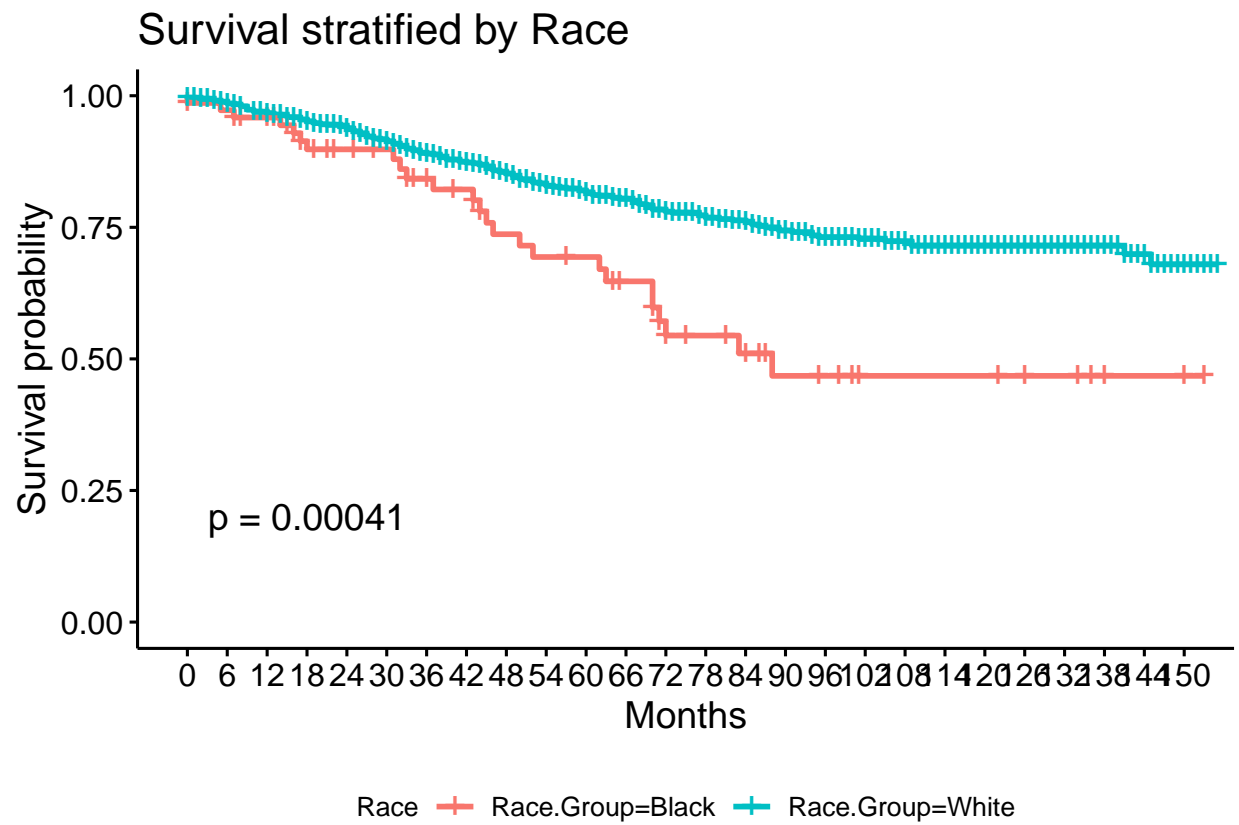

```
table(HGS.White.Black$Race.Group)
```

```
## 
## Black White
##    73   956
```

Broken down by Stage

Survival of T1N0M0 stratified by Race
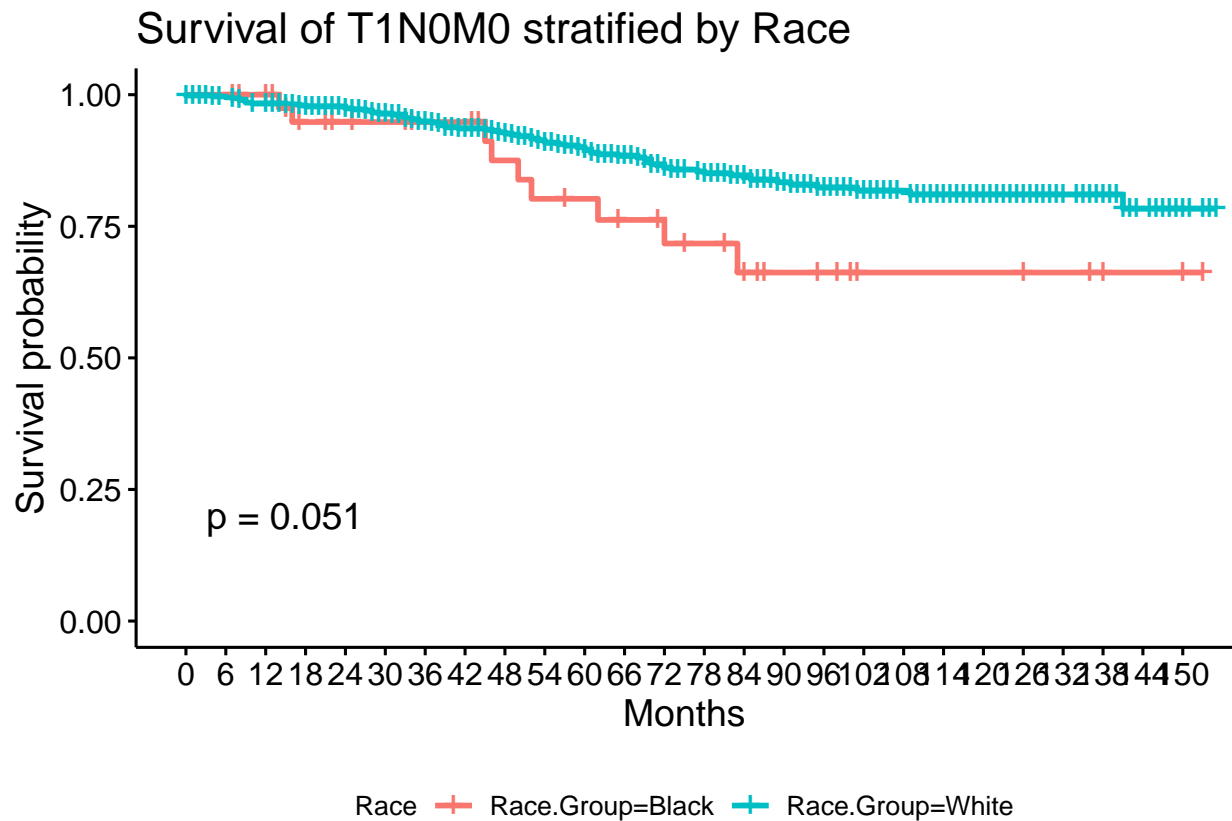
T1N0M0

```
table(T1.N0.M0$Race.Group)
```

```
## 
## Black White
##    43   601
```

Survival of T1NxM0 stratified by Race

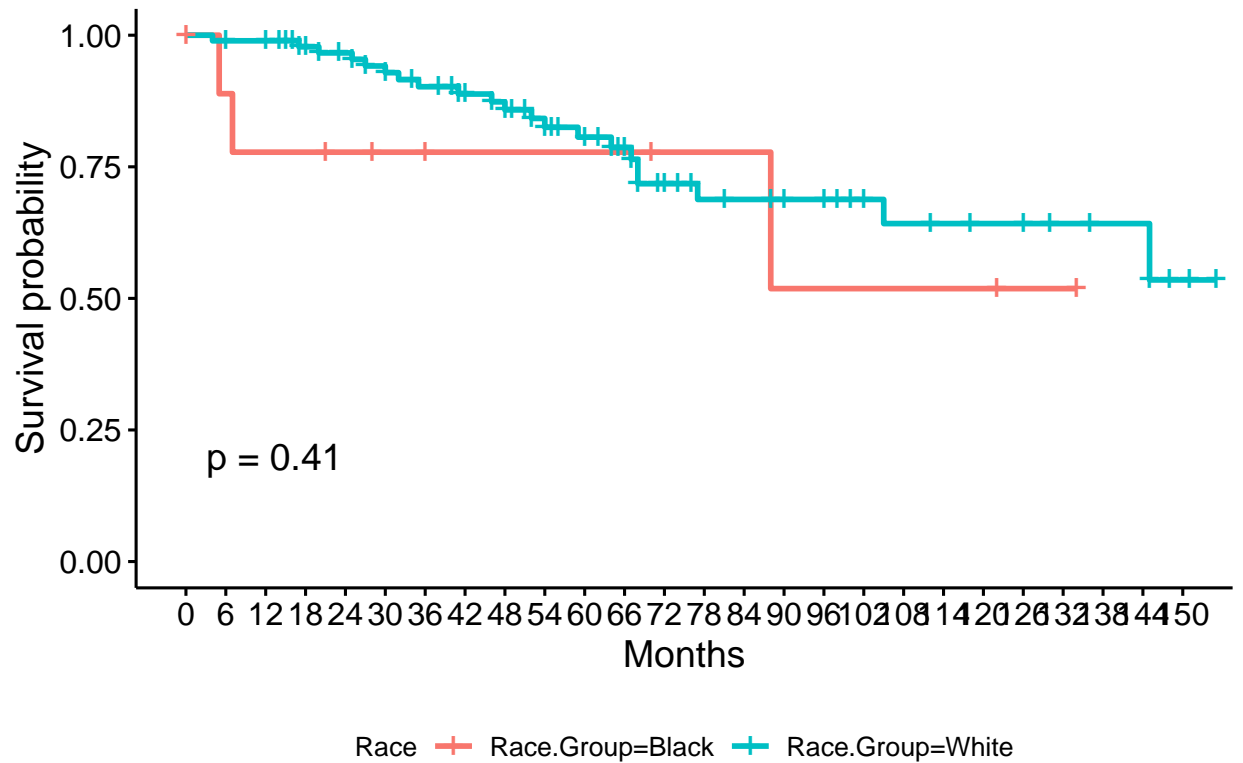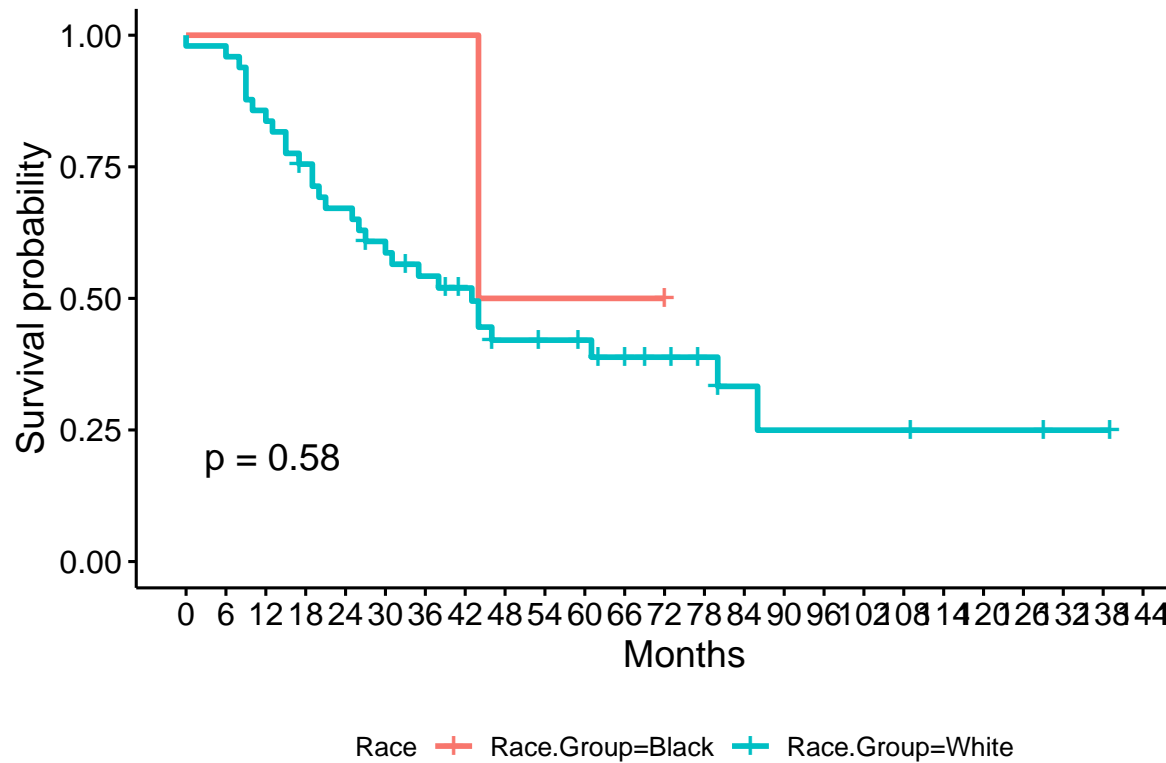p = 0.00044

Race — Race.Group=Black — Race.Group=White
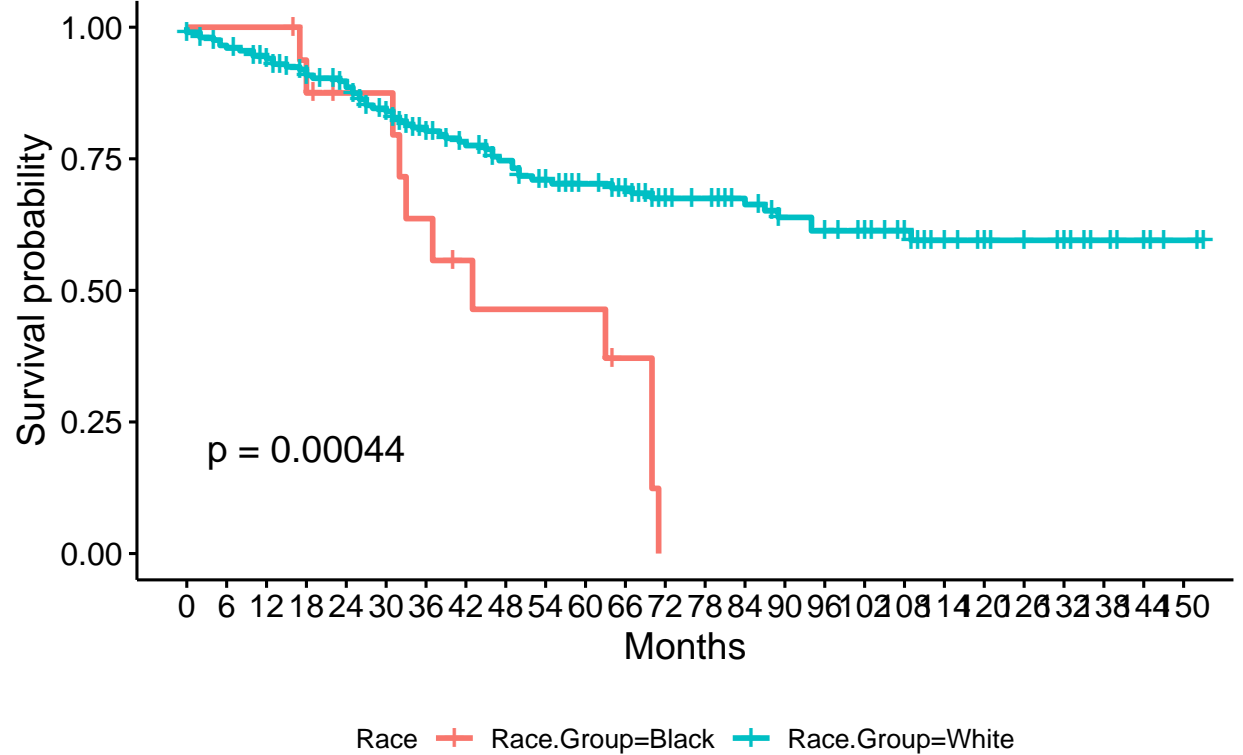
T1NxM0

```
table(T1.Nx.M0$Race.Group)
```

```
##
## Black White
##    17   206
```

T1N1M0

```
table(T1.N1.M0$Race.Group)
```

```
##
## Black White
##    10    94
```

Survival of Metastatic disease stratified by Race

p = 0.58
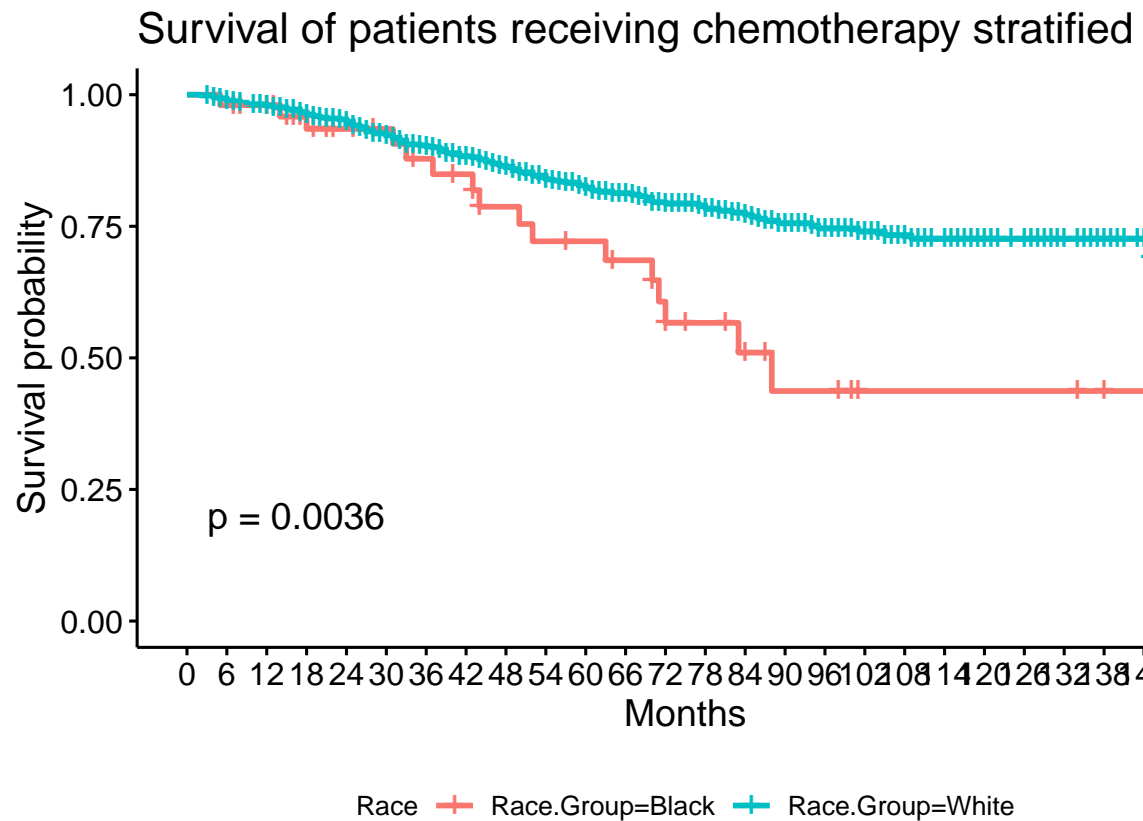
Race —+— Race.Group=Black —+— Race.Group=White

Metastatic Disease

```
table(mets$Race.Group)
```

```
## 
## Black White
##     2    49
```

Broken down by whether or not chemotherapy was received

Survival of patients receiving chemotherapy stratified

With Chemotherapy

```
table(chemo$Race.Group)
```

```
##
## Black White
##    50   712
```

Survival of patients not receiving chemotherapy stra

p = 0.058

Race ─┼─ Race.Group=Black ─┼─ Race.Group=White
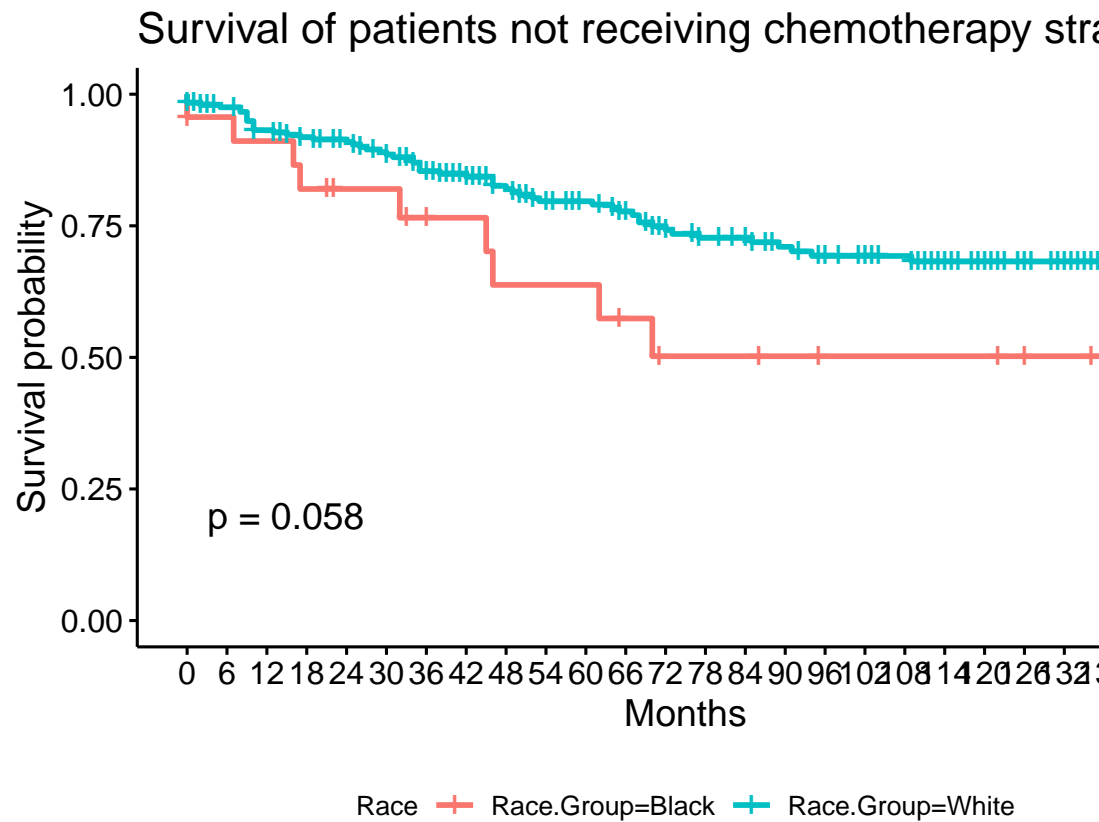
Without Chemotherapy

```r
table(nochemo$Race.Group)
```

```
##
## Black White
##    23   244
```