Week 6 Lab

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Package Install

We will need the following package for this lab:

```r
library("survival")
```

Data

For this lab, we will be using the data set `transplant`. Take some time to get familiar with the data set using the help function.

```r
?transplant
```

Problem 1

Using the data file `transplant` and the variable `event`, which is a categorical variable with four categories, test to see if they are uniformly distributed, i.e., the probability that each problem type occurs is 1/4. Use a significance level of 0.05.

Check any assumptions:

```r
output <- chisq.test(table(transplant$event))
output$expected
```

```
 censored     death       ltx withdraw
  203.75    203.75    203.75    203.75
```

If the assumptions are met, calculate the p-value:

```r
output$p.value
```

```
[1] 1.1789e-265
```

Problem 2

Using the data file `transplant` and the variables `event`, which is a categorical variable with four categories, and `abo`, which is a categorical variable with blood type, test to see if they are independent. Use a significance level of 0.05. You will need to begin by creating a data frame with just those two columns. Ignore any `warnings`.

Check any assumptions:

```
output <- chisq.test(table(transplant$event, transplant$abo))
```

```
Warning in chisq.test(table(transplant$event, transplant$abo)): Chi-squared
approximation may be incorrect
```

```
output$expected
```

	A	B	AB	O
censored	30.30675	9.604908	3.823313	32.26503
death	26.31902	8.341104	3.320245	28.01963
ltx	253.61963	80.377914	31.995092	270.00736
withdraw	14.75460	4.676074	1.861350	15.70798

If the assumptions are met, calculate the p-value:

Submitting

Submit the following to Canvas:

- Your rendered PDF titled Lastname_6R. Make sure your name is at the top of the document.

- Your .qmd file