Statistical Testing Parameters + Results

Flu Season Staffing Analysis

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Research Hypothesis

If an elderly, vulnerable patient (age 65+) contracts the flu, then they will die [a flu-related death].

Independent Variable	*age*
Dependent Variable	*death by flu*

Parameters

Two groups	*Non-vulnerable (5 - 65 years old) vs elderly (65+) population*

Statisitical Hypotheses

Null Hypothesis	*Age has NO effect on whether a flu patient will die of flu.*
statistical version >>	*Flu patients who are 65 or older die as often as flu patients who are less than 65 years old.*
Alternative Hypothesis	*Age HAS an effect on whether a flu patient will die of flu.*
statistical version >>	*Flu patients who are 65 or older die more than flu patients who are less than 65 years old.*

Type of test

Directional Type	*one-tailed test* *because I'm only looking in one direction (greater chance of flu death)*
T-test Type	*two sample* *because I'm testing two groups*

Significance Level

Significance Level	*alpha = 0.05* *standard-level significance level*

Results

p-value	*9.46581E-45*
Assessment	*The p-value is much less than the alpha = 0.05 significance level. With this, I can reject my null hypothesis. I have enough evidence to say that the two population means are significantly different.* *This means that I can state with high confidence (95%) that age impacts the chances that a flu patient will die.*
Next Steps	*Since we now have confidence in saying that older populations who contract flu are more likely to die of flu, it would therefore be helpful to support measures that would prevent the elder population from contracting flu in the first place. That is to say that effective prevention measures (such as the flu vaccine) could help reduce flu-related deaths.* *This could be part of the presentation to healthcare facilities - encouraging them to support such measures in conjunction with the staffing plan. Preventative measures can reduce the support needed in hospitals and clinics if flu contraction and flu death rates are prevented in the first place.* *Strategically, we can identify where the elder population is greatest (state to state) to increase the prevention awareness campaigns as well as staffing in those areas.*