Original Work Assessment

For my original work for the 2017-2018 school year, I completed analysis of a database of patient information to look for patterns following curative resection for pancreatic cancer. This is similar to the final product I completed last year, and will be used to further verify and qualify my final product this year. This reflects the extensive research I completed last year as well as this year, in regards to pancreatic cancer, as well as all of the calculations and analysis I performed. Through deeper level analysis, I discovered some of the factors that influenced increased weight loss following a pancreatiduodenectomy or pancreatectomy. One of these factors was the location of the tumor, as patients with tumors in the bile duct lost, on average, 14.45% of their original body weight. This is greater than 10% of their original body weight, thus indicating that these patients lost a significant amount of weight. Patients with significant weight loss have, on average, a lower rate of 5-year survival as well as a lower 12-year survival rate. Comparatively, patients with tumor locations such as the pancreas, ampulla, or stomach lost only 6.22% of their original body weight, on average. Similarly, patients who had a feeding tube placed lost only 2.7% of their original body weight, whereas patients without one lost, on average, 6.94% of their original body weight. One of the most difficult aspects of this calculations was looking for statistically significant factor. Although a factor may look significant based on averages, one cannot be certain until a T-Test is performed to calculate a p value. A p value less than .1 indicates a statistically significant factor, therefore indicating that it is highly probable that this factor had an impact on the patient's weight loss.

This original work serves an exceptionally important real word purpose, as weight loss is a risk factor of major operations such as the whipple procedure and a pancreatectomy, and nearly all patients undergo some sort of weight loss, be it substantial or minute. This weight loss, according to research, has an impact on the 5-year and 12-year survival rate. With a firm understanding of the factors that increase weight loss in patients with pancreatic cancer, doctors are better equipped to prevent this weight loss, hopefully increasing their 5-year and 12-year survival rates. This can be utilized to create preoperative plans and to better prevent significant weight loss in patients. Similarly, my final product last year analyzed many of the factors associated with weight loss following curative resection for gastric cancer, and came up with two statistically significant factors. By combining these two sets of research into one large data point, I can write a descriptive paper detailing my findings about these two types of cancers and the surgeries associated with them. Through the publication of this article, I can reach further institutions than U.T. Southwestern as well as put into fact the most significant factors in increased weight loss. This can be used to benefit patients and to make it easier on the surgeons operating on them.