# Module 5 Challenge

## Background

I have just joined Pymaceuticals, Inc., a new pharmaceutical company that specializes in anti-cancer medications. Recently, it began screening for potential treatments for squamous cell carcinoma (SCC), a commonly occurring form of skin cancer.

As a senior data analyst at the company, I have been given access to the complete data from their most recent animal study. In this study, 249 mice who were identified with SCC tumors received treatment with a range of drug regimens. Over the course of 45 days, tumor development was observed and measured. The purpose of this study was to compare the performance of Pymaceuticals' drug of interest, Capomulin, against the other treatment regimens.

The executive team has tasked me with generating all of the tables and figures needed for the technical report of the clinical study. They have also asked you for a top-level summary of the study results

\*\*Summary\*\* :

- The highest number of study is treated by Capomulin. On the other hand, the lowest number of study is treated by Propriva.

- There are more male mice treated than female mice. However, the statistics shows only 2% difference. Sex might not be the significant variable to the study.

- Final tumor volume treated by Capomulin and Ramicane tend to have lower number than the others. Ramicane seems to have lower final tumor volume. However, the number of mice treated by Ramicane is slightly less than Capomulin.

- Mouse ID l509 is an example of mouse treated by Capomulin, the tumor volume seems to decrease when the time has passed.

- The regression analysis helped to understand how much the average tumor volume (dependent variable) will change when weight of mice change(independent variables).