**Introduction**

Currently, lung cancer is the most common type of cancer in the world, accounting for over 2 million cases worldwide in 2018. In the United States, approximately 140,000 people are projected to die from the disease in 2020. The goal of this study was to model the spatial (across different counties), temporal (over time), and spatiotemporal relationships of lung cancer. In addition, COVID-19 and other socioeconomic factors were investigated to determine if there were associations. All cancer data was from the Texas Cancer Registry and processed via the SEER\*Stat software.

**Histologic Types Explanation & Introduction:**

There are multiple classifications of lung cancer called 'histologic types' based on the appearance of the cancerous cell under a microscope. Each has a unique etiology, therefore affecting people differently, meaning each should be studied individually. The grey boxes in the diagram on the right show the divisions of and relative prevalence of the four histologic types included in this analysis.

**General Trends Explanation:**

On this “General Trends” page of the dashboard, the first set of plots show the spatial relationships of lung cancer in order to visualize where there may be counties/ regions with abnormally high rates of specific lung cancers. The second set of plots show the temporal trends of different lung cancer types between 1995 and 2015. In addition, through the selection of inputs, the trends regarding specific age and/or gender groups can be investigated.

Disclaimer: Starting in 2001, a new category called “non-small cell carcinoma” was added under this classification, which may be the cause of the increase in cases during this time.

First sentence:

<https://www.who.int/news-room/fact-sheets/detail/cancer#:~:text=The%20problem,Lung%20(2.09%20million%20cases)>

Second sentence:

<https://acsjournals.onlinelibrary.wiley.com/doi/full/10.3322/caac.21590>

Cancer Data

Texas Cancer Registry ([www.dshs.state.tx.us/tcr](http://www.dshs.state.tx.us/tcr)) SEER\*Stat Database, Limited\_Use 1995-2017 Incidence, Texas statewide, Texas Department of State Health Services, created December 2019, based on NPCR-CSS Submission, cut-off 11/07/19.

**SIR Plots & INLA Modeling Page**:

General Information about what the page offers:

Simple explanation of the model: