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INTRODUCTION

- Prior research conducted compared 2012 data describing mortality per incidence and incidence per population cancer rates across 30 countries to identify outliers of higher or lower cancer treatment effectiveness (TE).
- By assessing the incidence and mortality of cancers within different countries, one can point out discrepancies in the diagnosis rate and treatment success rate of a nation relative to others.

PURPOSE

- The aim of this study will be to replicate and compare 2012 TE with 2018 ranked data and associate outliers with sociocultural influences. This particular study concerns that of lung cancer.

PROPOSED METHODS

PRIMARY ANALYSIS

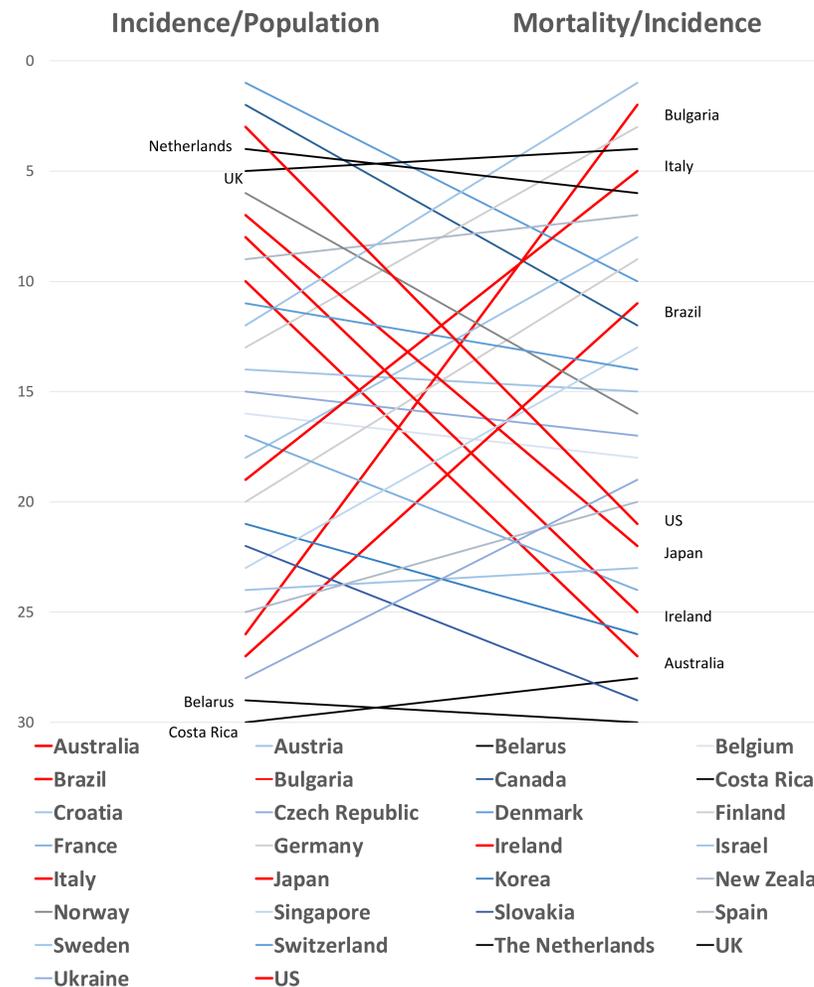
1. The 2012 and 2018 World Health Organization data will be obtained from GloboCan, an international cancer online database.
2. Data for factors such as age group, sex, and population size will be acquired from the same database.
3. The values of **incidence** (cancer occurrence) per population and **mortality** (deaths) per incidence will be ranked from highest to lowest

SECONDARY ANALYSIS

1. A literature review will be conducted to determine if such findings have already been explained by another researcher.
2. If not, a comparative study on the sociocultural details of pertinent countries will be performed

SAMPLE RESULTS

The large slopes (red lines) would indicate countries that have increased or decreased treatment effectiveness. The higher the number the worse the outcome.



- Australia, Ireland, Japan, and the US have the highest incidence per population but the lowest mortality per incidence. (Inequal distribution of work)
- Brazil, Bulgaria, and Italy have a lower incidence per population and higher mortality per incidence. (High income inequality)
- The UK and Netherlands have high values in both metrics. (Similar population density)
- Costa Rica and Belarus have low values in both metrics. (Small populations)

↑ Incidence = Prevalent cancer
↓ Incidence = Rare Cancer

↑ Mortality = High death rate
↓ Mortality = Low death rate

IMPLICATIONS

This work highlights the countries with better or worse treatment effectiveness.

A varied, mixed method approach provides the researcher a holistic point of view when observing the data for differences in treatment effectiveness values.

- High incidence/population + High mortality/incidence = Prevalent cancer, insufficient healthcare system
- High incidence/population + Low mortality/incidence = Prevalent cancer, sufficient healthcare system
- Low incidence/population + High mortality/incidence = Rare cancer, insufficient healthcare system
- Low incidence/population + Low mortality/incidence = Rare cancer, sufficient healthcare system

FUTURE WORK

This could be due to variance in treatment effectiveness as well as variance that is due to sociocultural influences taking effect on a nation.

Future study would replicate such procedures on the 23 other cancers recorded in GloboCan.

REFERENCES

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