

Exploring the Relationship Between Political Regime Type and Cancer Mortality

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PO-400-IA: Political Science Senior Thesis

### **Abstract**

This paper aims to establish a relationship between political regime type and public health outcomes. Looking specifically at cancer mortality, I employed a mixed-methods research approach to examine a potential relationship. I hypothesized that there would be a strong relationship between cancer mortality rates and regime types showing that democratic regimes have better outcomes due to democratic countries prioritizing public health more than autocracies. Initially, the paper provides statistical analysis, including regression analysis, to determine the strength of the relationship between cancer mortality and regime type. This analysis included 20 countries, including Canada and Russia, and used Freedom House Global Freedom Scores to represent regime type. While statistical analysis did not yield statistically significant results, a comprehensive case study approach was undertaken to elucidate other factors influencing cancer mortality rates. The countries of Canada and Russia were examined in this case study as representatives of democracy and autocracy, respectively. Ultimately, this research aims to foster deeper understanding and inform targeted interventions aimed at improving population health and well-being, contributing to the ongoing discourse on the intersection of political governance and public health outcomes.

## Introduction

Cancer remains one of the most pressing public health challenges worldwide, with its burden extending across borders, cultures, and political systems. The World Health Organization (2023) estimates that 10 million people died from cancer globally in the year 2023. This number has been fairly consistent throughout the 21st century despite countries pouring billions of dollars towards cancer research each year. Statista (2023) estimates that \$218 billion funded cancer research efforts across the globe in 2023; the same year that an estimated 10 million people died from the disease. While cancer research may be one of the most heavily funded fields of research, there is an evident lack of research on the relationship between political regime types and cancer. Beyond looking at sheer prevalence, investigating cancer through the lens of governments may help identify patterns that impact cancer mortality. As societies strive to combat this disease, I question if political regime types have a potential influence on cancer mortality rates. Are there discernible patterns linking the form of government to public health outcomes, particularly in the realm of cancer mortality?

In this thesis, I aim to answer this question by delving into the intricate interplay between political regime type and cancer mortality. Central to this investigation is the underlying assumption that democratic nations, with their emphasis on individual rights, civil liberties, and participatory governance, may exhibit superior public health outcomes compared to their autocratic counterparts. I hypothesized that democratic countries experience lower rates of cancer mortality compared to autocratic countries due to more effective health policies that encourage the well-being of their citizens. A review of the current literature available on this topic offers evidence in favor of a hypothesis anticipating a relationship between regime type and other public health outcomes (Alon et al, 2020; Bunyavejchewin & Sirichuanjun, 2021).

Motivated to join this conversation, I decided to embark on a thesis researching the relationship between political regime type and cancer mortality.

My thesis adopts a mixed-methods approach to evaluate health policies in two countries exemplifying different regime types: Russia and Canada. The thesis commences with an outline of the methodologies employed throughout the study. Subsequently, I conducted statistical analysis on a dataset comprising 20 countries, utilizing Freedom House Global Freedom Scores and Cancer Mortality Rates from the International Agency for Research on Cancer's 2022 Cancer Map. This analysis aims to establish an empirical correlation between political regime types and cancer mortality. Following this, I embark on a case study examination of Canada and Russia, investigating their respective cancer burdens, political regime classifications, and the potential impact of factors stemming from their political regimes on cancer mortality. The case study first introduces the systems of government in Canada and Russia including examinations of the Global Freedom Scores awarded to each country that are impacting public health outcomes. I then look at the burden of cancer in Canada and Russia using the Cancer Mortality rates from my statistical analysis. Finally, I provide an examination of factors such as the structure and performance of healthcare systems, GDP allocation towards healthcare, prevalence of preventative healthcare measures, and health literacy levels to offer deeper insights into the public health landscapes of Canada and Russia.

Statistical analysis of Freedom House Global Freedom Scores and Cancer Mortality Rates from the International Agency for Research on Cancer's 2022 Cancer Map found no statistically significant relationship. In using my case study to supplement what was not captured in statistical analysis, I was able to identify factors that are impacting public health showing that regime type does not show the full story. I discovered that while regime type alone may not be a

reliable predictor of cancer mortality rates, it influences various aspects of healthcare systems. As previously stated, my case study delved into factors such as the structure of healthcare systems, GDP allocation towards healthcare, prevalence of preventative healthcare measures, and health literacy levels. To my surprise, my case study did not provide support for the underlying assumption of my thesis, which posited that democracies prioritize public health to a greater extent than autocracies. This revelation underscores the complexity of the relationship between political regimes and healthcare efficacy.

Exploring the relationship between democracy and cancer can prompt further research on the complexities behind cancer incidences. I decided to conduct this research to bring to light the importance that health policy plays in the health and well-being of nations. I want to stress the importance of interdisciplinary research in the realm of health sciences as policy plays such an active role in the well-being of society. In delving into this research, I wish to not only gain insights into the complexities of cancer's global impact but also pave the way for informed policies and interventions aimed at alleviating the burden. Examining this relationship will hopefully prompt health policy change to mitigate the large number of deaths that occur every year due to cancer.

## Methodology

I used a mixed methods research approach consisting of statistical analysis and case studies to supplement what could not be captured in the statistical analysis. To establish a quantitative relationship between the two variables of cancer mortality and political regime type, I first conducted a statistical analysis. Secondary data was retrieved from the International Agency for Research on Cancer's 2022 Cancer Map and Freedom House. To represent my independent variable of regime type I used Global Freedom Scores from the year 2022 provided by Freedom House (2023). I chose Global Freedom Scores as a representation of regime type as it allowed me to assign a quantitative number to each country providing a scale from most democratic to least democratic. Freedom House (2023) issues a yearly global report on political rights and civil liberties assigning countries a numeric rating between 0-100, 100 being an ideal liberal democracy. For my dependent variable of cancer mortality rates, I used statistics derived from the International Agency for Research on Cancer's 2022 Cancer Map. The Agency calculates the age-standardization rate per 100,000 for both sexes in each country across the globe (International Agency for Research on Cancer, 2022). Age-standardization rate per 100,000 (ASR/100,000) is a weighted average of the age-specific mortality rate per 100,000 persons, where the weights are the proportions of persons in the corresponding age groups of the WHO standard population (WHO, n.d). I chose this database as it was the most recent public statistics available to me on multiple countries across the globe. Using ASR/100,000 also allowed me to factor in population differences between each country, potentially limiting any outliers. In the statistical analysis, I included 20 countries ranging from 100 to 3 on the global freedom scale. I analyzed data on the 20 countries using SPSS and constructed a scatter plot to provide a visual representation of this relationship. I also performed a Pearson correlation test to

determine the relationship between the two variables. I then tested my hypothesis using regression analysis performed also on SPSS.

I then undertook a case study approach to further investigate public health practices in the countries of Canada and Russia. I chose to look at Canada and Russia specifically as they are two countries on opposite ends of the Global Freedom Score Spectrum. Canada, boasting a global freedom score of 98, serves as a case reflecting democratic principles and values. Conversely, Russia, with a global freedom score of 16, serves as an illustration of autocratic governance. I also chose these countries on the grounds that they are both well-established and there was an abundance of public information available to me on the country's government and healthcare systems. The case study begins with an analysis of the disparities in political regime types, offering insights into the concepts of democracy and government structures within both countries. Next, it delves into an exploration of the global cancer burden, contextualizing how this burden manifests in both Russia and Canada. Furthermore, the study elucidates how these regime types potentially influence public health outcomes, including factors such as healthcare systems, healthcare expenditure, health culture, and health literacy.

### **Statistical Analysis**

For my research, I wanted to look specifically at the relationship between cancer mortality rates and regime type. I hypothesized, given the available research, that there would be a meaningful statistical relationship between cancer mortality rates and regime type. I used SPSS to conduct a regression analysis on regime type and cancer mortality. To represent my independent variable of regime type I used global Freedom Scores provided by Freedom House. I chose the global freedom score as a representation of regime type as it allowed me to assign a quantitative number to each country. Freedom House issues a yearly global report on political

rights and civil liberties assigning countries a numeric rating between 0-100, 100 being an ideal liberal democracy. Freedom House (2023) Global Freedom rating comes from 7 subcategories assessing the government's political and civil liberties:

1. Political Liberties

- a. The Electoral Process
- b. Political Pluralism and Participation
- c. Functioning of government

2. Civil Liberties

- a. Freedom of Expression and Belief
- b. Associational and Organizational Rights
- c. The Rule of Law
- d. Personal Autonomy and Individual Rights

For my dependent variable of cancer mortality rates, I used statistics derived from the International Agency for Research on Cancer's 2022 Cancer Map. The Agency calculates the age-standardization rate per 100,000 for both sexes in each country across the globe.

**Table 1. Countries Used in Statistical Analysis with Freedom Scores and Mortality Rates (in ASR/100,000)**



| <b>Country</b> | <b>Freedom Score</b> | <b>Mortality Rate (in ASR/100,000)</b> |
|----------------|----------------------|--|
| Sweden         | 100                  | 85.2                                   |
| Canada         | 98                   | 96.5                                   |
| Denmark        | 97                   | 106.5                                  |
| Argentina      | 85                   | 102.7                                  |
| United States  | 83                   | 82.3                                   |
| Brazil         | 72                   | 91.3                                   |
| Albania        | 67                   | 90.5                                   |
| India          | 66                   | 64                                     |
| Georgia        | 58                   | 111.7                                  |
| Kenya          | 52                   | 104                                    |
| Mozambique     | 45                   | 96.3                                   |
| Tanzania       | 36                   | 97.1                                   |
| Turkey         | 32                   | 116.1                                  |
| Iraq           | 29                   | 84.4                                   |
| Cambodia       | 24                   | 99.3                                   |
| Vietnam        | 19                   | 99                                     |

|             |    |       |
|-------------|----|-------|
| Russia      | 16 | 110   |
| China       | 9  | 96.5  |
| Somalia     | 8  | 95.5  |
| North Korea | 3  | 113.9 |

As seen in Table 1, I included 20 countries in this analysis ranging from 100 to 3 on the global freedom scale. Using the data provided in Table 1, I conducted statistical analysis in SPSS.

**Figure 1. Relationship between Freedom Score and Cancer Mortality**

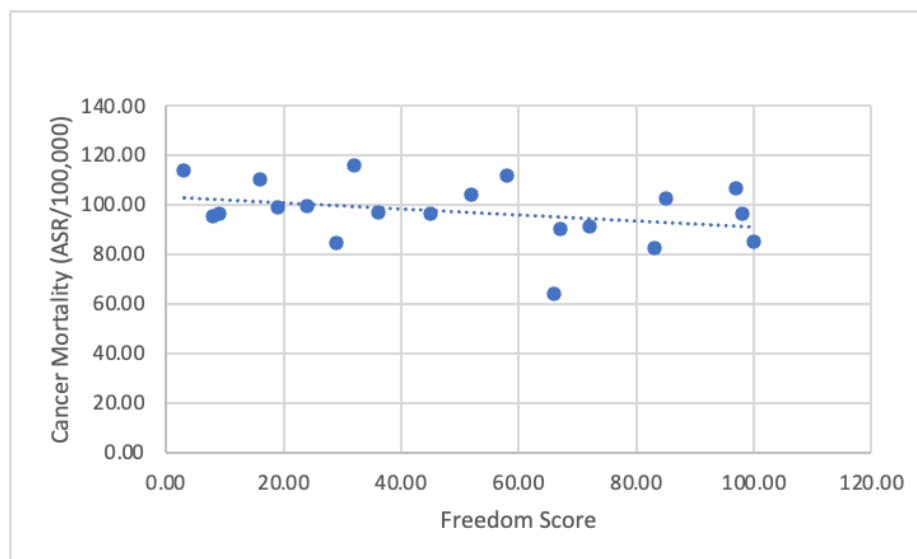


Figure 1 depicts a scatter plot of the data presented in Table 1. This Scatter plot shows a moderate negative correlation between the two variables. To further solidify this relationship, I conducted both a Pearson Correlation test and regression analysis using the SPSS software.

**Figure 2. Pearson Correlation Chart**

**Correlations**

|                                  |                                | Freedom<br>Score | ASR/100,000Mortality |
|----------------------------------|--------------------------------|------------------|----------------------|
| <b>Freedom Score</b>             | <b>Pearson<br/>Correlation</b> | <b>1</b>         | <b>-.323</b>         |
|                                  | <b>Sig. (2-tailed)</b>         |                  | <b>.165</b>          |
|                                  | <b>N</b>                       | <b>20</b>        | <b>20</b>            |
| <b>ASR/100,000<br/>Mortality</b> | <b>Pearson<br/>Correlation</b> | <b>-.323</b>     | <b>1</b>             |
|                                  | <b>Sig. (2-tailed)</b>         | <b>.165</b>      |                      |
|                                  | <b>N</b>                       | <b>20</b>        | <b>20</b>            |

**Figure 3. Regression Analysis Model Summary**

**Model Summary**

| Model    | R                       | R Square    | Adjusted R Square | Std. Error of the Estimate |
|----------|-------------------------|-------------|-------------------|----------------------------|
| <b>1</b> | <b>.323<sup>a</sup></b> | <b>.104</b> | <b>.054</b>       | <b>12.03483</b>            |

**a. Predictors: (Constant), Freedom Score**

The Pearson correlation coefficient between Freedom Score and ASR/100,000 Mortality is seen in Figure 2 as  $-0.323$ . This indicates a moderate negative correlation between the two variables. This is also confirmed by the scatter plot shown in Figure 1. The p-value associated with the correlation coefficient was  $.165$  (2-tailed), which is above the conventional threshold of  $.05$  for statistical significance. Therefore, the correlation between Freedom Score and ASR/100,000 Mortality was not statistically significant at the  $0.05$  level. Additionally, the Model Summary shown in Figure 3 provides information on the overall fit of the regression model. The R-value of  $.323$  indicates the strength of the relationship between Freedom Score and ASR/100,000 Mortality. The R Square value of  $.104$  indicates that approximately 10.4% of the variance in ASR/100,000 Mortality can be explained by variations in Freedom Score. The Adjusted R Square value of  $.054$  suggests that when accounting for the number of predictors in the model, the percentage of variance explained decreases slightly to 5.4%. The standard error of the estimate was calculated to be  $12.03483$ , which represents the average distance between the observed values and the predicted values by the regression model. Overall, while a moderate negative correlation was observed between Freedom Score and ASR/100,000 Mortality, it should be noted that this correlation was not statistically significant at the  $0.05$  level. This finding led me to conclude that further investigation of additional variables may be necessary to better understand the relationship between political regime type and cancer mortality.

### **Case Study Analysis of Canada and Russia**

Despite the lack of a clear statistical correlation between cancer mortality rates and freedom scores, I was still curious about the underlying factors contributing to differing health outcomes between Canada and Russia. To delve deeper into this issue, I embarked on a comprehensive case study aimed at clarifying potential variables influencing cancer mortality

and overall health outcomes in these two nations. Before I could understand the factors that may impact public health outcomes, it was crucial to gain a comprehensive understanding of what the political regimes of Canada and Russia look like and how they differ.

### Political Regime Analysis of Canada and Russia

By scrutinizing the mechanisms that underpin democratic systems — such as regular free and fair elections, protection of human rights, and accountable institutions — I can distinguish them from non-democratic counterparts that may exhibit centralized authority, restricted political freedoms, and limited civic participation. Robert Dahl et al. (2003) dissects a variety of works to gain insight into the concept of democracy. Within the discourse on the classical doctrine of democracy, Dahl and coauthors argue that democracy, in its most overarching sense, originates from the principle of the people's will. Democracy, construed as the rule of the people, manifests as a mechanism for selecting a government through free and equitable elections (Dahl et al., 2003). The underlying premise portrays that governments chosen in this manner are superior to those selected through alternative means (Dahl et al., 2003). Genuine electoral democracies are characterized by a civilian constitutional framework wherein legislative and executive offices are occupied through regular and competitive elections (Dahl et al., 2003). The ultimate aspiration of democratic institutions should be to establish a liberal democracy that guarantees the utmost protection of human rights. As Dahl et al. (2003) point out, this does not always happen. In this case study, I outline how a democracy with a near-perfect global freedom score does not automatically correlate to better health outcomes. This point is also shown in my statistical analysis as there was no clear correlation between democracies and lower cancer mortality rates. In the following paragraphs, I provide an overview of the political regime types present in both Canada and Russia, incorporating scholarly perspectives on each regime type. This groundwork

will enable an exploration of additional variables contributing to disparities in cancer mortality rates within the framework of each country's respective regime type.

### *Canadian Regime Type*

The Canadian government functions under a parliamentary democracy. Canada's constitution outlines three distinct elements: the crown, the senate, and the House of Commons (Marleau & Montpetit, 2000). The power of law-making is vested in elected individuals serving in a bicameral federal legislative system comprised of the Senate, and the House of Commons (Marleau & Montpetit, 2000). The Canadian government also functions under a constitutional monarchy where formal power is vested in the queen through the constitution (Marleau & Montpetit, 2000). Representatives are chosen by the Canadian people allowing the constitution to be classified as a parliamentary democracy (Marleau & Montpetit, 2000). While authority flows from the Canadian people through the election of representatives, every government act is carried out in the name of the crown (Marleau & Montpetit, 2000).

A key feature of the Canadian system that is responsible for the political and electoral freedom of its citizens is political parties (Parliament of Canada, n.d). The majority party of the House of Commons is responsible for selecting a leader who then is appointed prime minister (Parliament of Canada, n.d). In the Canadian Parliament, the role of the opposition is integral to the democratic process and the system of checks and balances. The opposition holds the majority party accountable to the Canadian population by scrutinizing its policies, decisions, and actions (Parliament of Canada, n.d). This critical role ensures that diverse viewpoints are considered by both parties, fostering a robust democratic discourse. Additionally, the opposition serves as a counterbalance to prevent the concentration of power, contributing to the overall health and effectiveness of Canada's parliamentary system (Parliament of Canada, n.d). Through their

scrutiny and advocacy, the opposition plays a vital role in upholding democratic principles and representing the interests of a diverse range of citizens.

The Canadian parliamentary system is regarded by Moscrop (2017) as both efficient and accountable to its people. The Parliament of Canada (n.d) itself describes the government system as a “responsible democracy”. Moscrop (2017) notes that the format of the Canadian parliamentary system is marked by extensive civil liberties, a vibrant political culture, moderate political participation, political pluralism, and legitimate elections. While Moscrop (2017) acknowledges that there are flaws in the system, as is true with all governments, the Canadian parliamentary system provides a vibrant example of a functioning democracy.

Considering these opinions, I chose to examine Canada as an example of democracy to compare against the government system in place in Russia. I also want to consider the global freedom score of Canada which was used in the statistical analysis examining cancer mortality. While regression analysis showed only a moderate correlation between freedom score and cancer mortality, I find it important to discuss the quality of democracy in Canada as explained by the country's global freedom score. Freedom House Freedom House (2023) remarks on Canada's strong history of respect for political rights and civil liberties. The organization scored Canada 98 out of 100 on the global freedom scale. As stated previously in my statistical analysis, Freedom House's (2023) Global Freedom rating comes from 7 subcategories assessing the government's political and civil liberties. Canada scored a perfect 40 out of 40 in the political rights category and 58 out of 60 in the civil liberties category (Freedom House, 2023). For reference, The United States of America—a country that prides itself highly on its democratic constitution—scored an 83 on this scale. I offer this reference to stress the quality of democratic

values in Canada. With a near-perfect score on this scale, the Canadian government accomplishes a level of democracy that countries with democratic constitutions may strive for.

Parliamentary democracies have been a highly debated regime type in political science. Scholars of politics argue whether parliamentary or presidential systems are superior methods of executive leadership (Gerring et al., 2013). Gerring et al. (2013) argue that this debate is insignificant and that what truly distinguishes parliamentary systems from presidential democratic systems is good policy. Gerring et al. (2013) argue that parliamentary governments are equipped with better tools to prevent individual agendas from being pursued over what the whole of society would prefer. Parliamentary democracies provide greater incentives in the decision-making process for actors to reach agreements; in turn ensuring better policy (Gerring et al., 2013). Patrick (2021) also praises parliamentary democracies due to the system of accountability that they promote. Patrick (2021) notes that parliamentary systems are not weighed down by checks and balances among power-sharing departments, which is a process that can slow down the operations of government and sometimes create gridlocks in policymaking.

I offer this literature on parliamentary democracies as support for my assumption that Canada would have a better health policy than its autocratic counterpart, Russia. While my hypothesis states a preference for the health policy of democracies in general, looking specifically at the democratic style of Canada, offers the best avenue for analysis. The literature I found views Canada as an overall successful democracy. It would be ineffective to look at any country with the label of democracy as we know, from the point made by Dahl et al. (2003), that not all countries with the label of democracy are successful. I again offer the example of the United States. While there is a long-standing democratic government set in place in the United



States, it still falls short of its democratic counterparts with a Global Freedom Score of 83 (Freedom House, 2023).

### *Russia Regime Type*

In comparison to this system, I will be examining Russia which functions under an authoritarian political system (Freedom House 2024). Marko Krtolica (2023) aims to define and understand the characteristics of non-democratic political systems. Krtolica (2023) breaks down the two most basic characteristics of any non-democratic state: political decisions being made by either a single individual or an elite group and elections either do not exist or, on the other hand, represent only a farce in the election of political institutions. Non-democratic states are further broken down into two categories: Totalitarian regimes and Authoritarian regimes. Totalitarian regimes are categorized by the abolition of democracy and the creation of a state that will influence every sphere of human existence (Krtolica, 2023). In this regime type, the boundary between state and society is non-existent. Krtolica (2023) differentiates authoritarian regimes by their degree and scope of violence. Totalitarian states have a much higher degree of terror, whereas authoritarian states do not (Krtolica, 2023). While there is a lack of a defined party system, there is still an existence of civil society, a market economy, and sometimes opposition organized in political parties (Krtolica, 2023). Krtolica (2023) stresses that despite less terror associated with authoritarian states, there is still the problem of restricting human freedoms and rights.

The state of Russia itself classifies its system as a democratic federative law-governed state with a republican form of government (Government of the Russian Federation, n.d). The Russian Constitution outlines that power shall be vested in the President of the Russian Federation, the Federal Assembly, the Government of the Russian Federation, and the courts of

the Russian Federation (Government of the Russian Federation, n.d). All power is said to be given to these divisions of government by the people of Russia through free, and fair elections (Government of the Russian Federation, n.d).

Freedom House (2023) comments that with subservient courts and security forces, a controlled media environment, and a legislature consisting of a ruling party and pliable opposition factions, the majority party manipulates elections and suppresses genuine opposition. The organization ranked the country 16/100 on the Global Freedom Scale in 2022, delegitimizing the country's democratic claims (Freedom House, 2023). In the political rights category, the country scored a 5/40 with zeros in all electoral process subcategories meaning that citizens of Russia do not have access to free and fair elections (Freedom House, 2023). In the civil liberties category, the country scored 11/60 (Freedom House, 2023).

Russia is currently moving closer and closer to a totalitarian regime according to Kolesnikov (2022). The war President Vladimir Putin has waged on Ukraine has pushed the country towards partial tyranny (Kolesnikov, 2022). Kolesnikov (2022) acknowledges the characteristics of the country's political atmosphere that are warning signs of a totalitarian regime. Kolesnikov (2022) notes that the silent assent of current president Putin and the current culture of forced support for the majority party has been the most telling sign of a political shift in the country. Kolesnikov (2022) also comments on the culture of hatred towards an enemy in the country. This need for hatred and violence against an enemy was also discussed by Marko Krtolica (2023) as a warning sign of totalitarian regimes. Kolesnikov (2022) also warns about the self-destructive behaviors of Russia and how the country has been reducing the quality of human capital through the deterioration of its economy. It is clear through Kolesnikov's analysis that the country is in a state of unstable transition towards a totalitarian regime.

Wallander (2021) argues that the political landscape of Russia created by President Vladimir Putin is its regime type in and of itself. While the system of government in Russia highly resembles the dynamics of autocracies extensively studied in comparative politics, there is a personalist element of Putin's regime where political power is exercised through individual relationships making state institutions weak (Wallander, 2021). This has concerning implications for the stability of public health infrastructures in Russia.

#### Effect of Regime Type on Health Policies

Considering the discussion above, it is reasonable to expect that differences in health policies between the two countries are influenced by their regime type. I began this research with the underlying assumption that democratic countries prioritize the well-being of their citizens and consequently exhibit more robust health policies. So, before I could look specifically at cancer mortality, I had to first look at health policies in general. The COVID-19 pandemic presented a unique window to scrutinize how countries respond to public health crises. Schmotz & Tansey (2023) examined the role that regime types played in government policies surrounding the pandemic. With their research, Schmotz & Tansey (2023) went in with the same assumption that democratic principles mattered when looking at public health. However, their research showed that regime type did not significantly influence government responses to the pandemic (Schmotz & Tansey, 2023). Schmotz & Tansey (2023) propose that it was the characteristics of the pandemic that made it difficult to establish a relationship between regime type and policy response. My statistical analysis, although focused on a different health outcome, adds to this conversation showing that there was no statistically significant correlation in this relationship.

On the other hand, Alon et al. (2020) found that because democracies are built upon the accountability of the people, they are more apt to respond to the COVID-19 pandemic. In their

study on political systems and their responses to the pandemic, Alon et al. (2020) established a preliminary relationship between regimes and their responses. Alon et al. (2020) conclude that the culture of autocratic governments harms their public health response efforts. Similarly, Bunyavejchewin & Sirichuanjun (2021) conclude in their study on the effects of regime type on policy, that quality of governance impacted how effectively policy was implemented concerning COVID-19. The study argues that regime types are best used as indicators of the quality of governmental communication and accountability in the context of COVID-19, not necessarily for indicators of public health (Bunyavejchewin & Sirichuanjun, 2021).

Considering the nuanced understanding of the relationship between regime type and public health outcomes gathered from the preceding discussion, it becomes imperative to investigate the hypothesized association between cancer mortality and regime type using more than statistical analysis. Building upon the premise that democratic nations prioritize the health and well-being of their citizens, it is reasonable to anticipate a finding of other factors explaining the variation of health outcomes in different countries. The following sections uncover other factors, potentially stemming from the regime types of Canada and Russia, that impact public health outcomes. I hope that by looking at these underlying factors I can explain, in part, why there is an assumption for democratic countries to experience better health outcomes.

### The Global Cancer Burden: Insights from Canada and Russia

The global cancer burden represents a formidable challenge to public health, transcending geographical boundaries and affecting millions of lives. As cancer continues to assert itself as a leading cause of morbidity and mortality worldwide, understanding its multifaceted impact becomes increasingly crucial. Beyond its sheer prevalence, investigating cancer on a global scale

allows researchers to identify patterns in government structures that impact cancer mortality. In delving into this research, I wish to not only gain insights into the complexities of cancer's global impact but also pave the way for informed policies and interventions aimed at alleviating the burden. Bray et al. (2012) assesses the changing patterns of cancer by linking geographic and temporal patterns of cancer to corresponding levels of social and economic progress using the Human Development Index (HDI). Through their research, Bray et al. (2012) was able to predict an increase in all cancer incidences from 12.7 million in 2008 to 22.2 million in 2030. Their findings correlate the societal and economic change in countries to an increase in cancer incidences. Considering these findings, I thought it was important to look at cancer in the context of a nation's political regime type.

Examining the cancer burden in Canada and Russia provides a profound insight into the two nations' healthcare landscape and the challenges faced by their populations. Statistics on cancer mortality in Canada and Russia were derived from the International Agency for Research on Cancer (2022) Cancer Map. The Agency calculates the age-standardization rate per 100,000 (mortality ASR/100,000) for both sexes in each country across the globe (International Agency for Research on Cancer, 2022). The mortality ASR/100,00 for Canada was found to be 96.5 (International Agency for Research on Cancer, 2022). In a Canadian release from 2021, health officials in Canada remark that cancer is the number one cause of death in the country. The Public Health Agency of Canada (2021) estimates that two in five Canadians will be diagnosed with cancer in their life and 1 in 4 Canadians will die from cancer. The mortality ASR/100,000 for Russia was found to be 110 (International Agency for Research on Cancer, 2022). Like Canada, cancer is noted as one of the leading causes of death in Russia second to cardiovascular

disease (Barchuck et al., 2022). Barchuck et al. (2022) Predict that the number of cancer-related deaths is expected to rise by 19.5% over the next two decades.

### Beyond Regime Type: Other Factors Explaining Variation

Beyond looking at metrics that simply reflect regime type, such as freedom scores, I turned my attention to various factors that could play pivotal roles in shaping health outcomes, guided by other studies. These factors ranged from the intricacies of healthcare systems in each country, including accessibility and quality of care, to economic indicators like GDP and health expenditure. Additionally, I scrutinized aspects challenging these systems such as prevailing health cultures and health literacy levels within each society. Through this multifaceted investigation, I endeavored to uncover nuanced insights into the complex interplay of elements impacting cancer mortality rates and broader health trends in Canada and Russia. My hope for completing this case study was to understand the factors underlying my initial assumption that health outcomes would be superior in a democratic nation.

### *Healthcare Systems of Russia and Canada*

The healthcare systems in both Canada and Russia are built upon the concept of universal healthcare. In the conversation surrounding government regimes and public health, the concept of universal health care emerges as a pivotal point of consideration. As governments navigate the balance between their regulatory role and citizens' well-being, the adoption or absence of universal healthcare policies significantly impacts the accessibility, affordability, and quality of healthcare services. The presence or absence of universal health care becomes not only a measure of a government's commitment to public welfare but also a determining factor in mitigating or perpetuating health inequalities within a society. Templin et al. (2021) aim to explore the relationship between a country's political system, particularly democracy, and the

achievement of Universal Health Coverage (UHC). The article looks at health expenditure and the roles of political systems, especially during global economic recessions. Templin et al. (2021) suggest that democracies are more likely to maintain universal health coverage, even during economic recessions when access to affordable and effective health services becomes crucial. This implies that political systems, particularly democratic governance with free and fair elections, play a vital role in sustaining health coverage and protecting citizens from financial risks. Haakenstad et al. (2022) aim to identify a correlation between human resources for health (HRH) and global healthcare policy. The study highlights the substantial gaps in meeting workforce requirements for universal healthcare globally, emphasizing the need for targeted interventions and policy measures to address shortages in the healthcare workforce and ensure effective health coverage (Haakenstad et al., 2022). The article focuses on the policies that best make way for universal healthcare systems as UHC systems are highly regarded as the most effective way to ensure quality care to all people. Considering the literature supporting UHC systems as the most effective form of healthcare, I found it intriguing to observe that within the context of this case study, both democratic and autocratic regimes have implemented variations of universal healthcare. Looking at the specifics of the healthcare systems within each country could be a factor explaining the low correlation between regime type and cancer mortality.

Canada's healthcare system functions through a decentralized, universal, publicly funded health system called Canadian Medicare (Tikkanen et al., 2020). The Canada Health Act of 1984 sets national standards for healthcare in Canada and outlines five essential pillars (Tikkanen et al., 2020):

1. Publicly administered care.

2. Comprehensive coverage options a
3. Universality
4. Portability across provinces
5. Accessible to all

Provinces in Canada are responsible for upholding these standards and providing health coverage for their respective populations (Tikkanen et al., 2020). The federal government's job in this system is to finance, organize, and supervise province programs (Tikkanen et al., 2020). In this system, there is still a role held by private insurance. Private insurance is needed for services not covered by public entities such as dental, vision, outpatient prescription drugs, rehabilitation services, and private hospital rooms (Tikkanen et al., 2020). OECD (2023) estimates that the universal healthcare system in Canada is responsible for the country performing better than other countries in access to care indicators.

The Russian healthcare system also functions under a form of universal healthcare (International Citizens Insurance, 2021). Free healthcare for Russian citizens was established in 1966 and is provided by the state through the Federal Compulsory Medical Insurance Fund, also called OMI or Obligatory Medical Insurance (International Citizens Insurance, 2021). The responsibility for health policy and system governance lies with the Federal Ministry of Health (European Observatory on Health Systems and Politics, 2011). Regional health authorities oversee many medical services, including primary care, while district and regional hospitals handle secondary care, and federal hospitals typically provide tertiary care (European Observatory on Health Systems and Politics, 2011). The federally determined medical benefits package covers most primary and secondary services but excludes specific diagnostic tests and services without proper referrals (European Observatory on Health Systems and Politics, 2011).



Citizens are also responsible for covering prescription costs with exceptions for those who are chronically ill, disabled, or military veterans (European Observatory on Health Systems and Politics, 2011). All regions in Russia maintain a social health insurance fund accountable to the regional government (European Observatory on Health Systems and Politics, 2011).

Contributions from employers' cover employees' and regional governments contribute to the non-working population (European Observatory on Health Systems and Politics, 2011).

### Challenges for the healthcare systems of Canada and Russia

While Canada was able to establish a successful universal healthcare system that has been upheld for almost 40 years, it is not perfect. As previously stated, Canada is among the highest spenders on healthcare in the developed world (The Fraser Institute, 2023). However, compared to other countries with universal healthcare systems Canada ranked 28th out of 30 countries for the number of physicians available (with 2.8 physicians per 1,000 people); 23rd out of 28 countries for hospital beds (with 2.2 per 1,000 people); 26th of 29 countries on MRIs (with 10.3 per million people); and 27th out of 30 countries for CT scanners (with 15.0 per million people) (The Fraser Institute, 2023). Past simply looking at statistics, it is also valuable to look at opinions of the system. It is argued that the layout of the system causes physician payment to not be aligned with health system goals. Physicians are paid for doing a transaction, not for obtaining some sort of global health outcome (Tollinsky, 2021). Ipsos (2021) found that Canadians remain critical of several aspects of the health system, with seven in ten (71%) agreeing that the system is too bureaucratic to respond quickly or adequately to the needs of the population and over half saying that recent investments in healthcare have either worsened (19%) or had no effect (35%) on the system. It is important to realize that these approval rates vary across provinces. The geographical layout of Canada has a tremendous impact on health.

The home province or territory of a patient determines which drugs are available on the public formulary, who is eligible for public coverage, and what portion of the financial burden of care falls to the individual (MacPhail & Snow, 2022). This makes it harder for low-income or marginalized communities to access necessary drugs. Approval is higher in more developed areas such as Ontario and Quebec compared to Alberta, Saskatchewan/Manitoba, and Atlantic Canada (Ipsos, 2021).

The Russian healthcare system also faces several challenges that have garnered criticism. One significant issue is the unequal distribution of healthcare resources between urban and rural areas, leading to disparities in access to medical services (International Citizens Insurance, 2021). Distributions of health resources and availability of care in rural areas have had significant impacts on the health of rural populations (International Citizens Insurance, 2021). Hospital wait times and overcrowding in the few hospitals servicing large areas have reached extremes of putting patients' lives at risk incomparable to other countries with universal healthcare (International Citizens Insurance, 2021). The system's bureaucratic complexities and regional variations have also been criticized for hindering effective coordination and standardization of healthcare practices (Danishevski, 2006). Danishevski (2006) argues that there is a significant lack of coherence among many aspects of the Russian healthcare system. Danishevski (2006) states that while universal healthcare should correlate to better access to care, it isn't doing so in the Russian Federation. Danishevski (2006) suggests that this may be due to the political climate in Russia with its transition out of Soviet Russia. Dimitriev et al. (n.d) remark that the universal healthcare system in Russia isn't achieving the goals of universal healthcare due to funding not adequately backing the guarantee of coverage to all. There is a

lack of follow-through between what the country promises its healthcare system will do versus what it does (Dimitriev et al., n.d).

A deeper examination of healthcare systems reveals that the mere implementation of universal healthcare does not inherently guarantee superior healthcare outcomes. While Canada's democratic framework and commitment to universal healthcare contribute to its relative success compared to Russia, challenges persist. The literature above shows that Canada struggles with disparities in resource allocation, evidenced by its low rankings in physician availability, hospital beds, and medical imaging technology. Moreover, public opinion underscores concern regarding government inefficiencies and insufficient responsiveness to population needs, particularly in less developed regions. Similarly, Russia's universal healthcare system faces formidable obstacles, including stark urban-rural healthcare resource disparities, exacerbated by its autocratic government and inadequate funding. As explained previously, the state of Russia is experiencing a political shift towards totalitarianism (Kolesnikov, 2022). This shift may explain why healthcare is not a priority to the Russian government despite having universal healthcare.

#### *GDP and Health Expenditures of Canada and Russia*

Gross domestic product (GDP) quantifies the total market value of all final goods and services produced within a country in a specific period (Bergh, 2009). It serves as a comprehensive measure of a nation's economic performance and is often used to gauge the overall health of an economy. This metric is crucial for policymakers, economists, and investors to analyze and compare economic performance across countries and over time (Bergh, 2009). Health expenditure not only reflects a government's commitment to the health of its citizens but also plays a fundamental role in shaping the overall public health landscape (Blume et al.,

2021). Examining health expenditure allows an understanding of how states prioritize public health, allocate resources, and ultimately contribute to the health outcomes and well-being of their populations.

Blum et al. (2021) examine the influence that political institutions have on health expenditures. This study offers insight into how health spending varies between different political institutions. The study found that democracies have 20-30% higher health expenditures, leading to the conclusion that democracies tend to show more care for citizens by targeting inequalities and access to healthcare (Blum et al., 2021). The evidence provided by Blum et al. (2021) supports the idea that democracies tend to target inequalities in health more than non-democratic states. Münch et al. (2020) also find support for democracies spending more on public health. Through empirical analysis of 170 countries, Münch et al. (2020) found that countries with higher levels of political freedom spend more on public health. Consistent with the literature on public health expenditures and political institutions, the OECD (2023) found that Canada allocates a high percentage of GDP towards healthcare. This can be further seen through the actual percentage of GDP that Canada allocates towards healthcare.

Canada allocates, on average, 2.9% more of their GDP towards healthcare compared to other OECD countries (OECD, 2023). Canada's GDP in the year 2023 was 2.24 thousand (in billions of U.S. dollars) according to the International Monetary Fund (2024). Of that 2.24 thousand (in billions of U.S. dollars), 12.1% represents health expenditures in Canada in 2023 (Canadian Institute for Health Information, 2023). This translates to approximately \$8,740 per Canadian (Canadian Institute for Health Information, 2023). Russia's GDP in the year 2023 was 1.9 thousand (in billions of U.S. dollars) according to the International Monetary Fund (2024). Of that 1.9 thousand (in billions of U.S. dollars), 7.4% will represent health

expenditures (Degenhard, 2024). This is significantly lower than the spending done by Canada, especially considering the population of Russia is almost triple that of Canada. The disparity in healthcare investment between these nations may find its roots in Russia's political climate, as elucidated by Kolesnikov (2022), who suggests that governmental focus on military endeavors diminishes the prioritization of human welfare. This divergence in spending patterns prompts a closer examination of where and how resources are allocated within the healthcare sector.

### Investments in healthcare

As previously stated, Canada allocates on average 2.9% more of their GDP towards healthcare compared to other countries (OECD, 2023). Canada is widely known for their high allocation of GDP towards healthcare however, this high spending does not necessarily correlate to high performance. The Fraser Institute (2023) remarks that while Canada ranks the highest amongst the developed world in health spending, it hasn't necessarily translated to better performance. While compared to other countries with universal healthcare systems, Canada lagged in the availability of physicians, hospital beds, MRIs, and other technologies (Fraser Institute, 2023). This can be explained by the ways that Canada allocates its healthcare spending. Examining the specifics of how money is allocated towards healthcare in Canada is crucial for examining the quality of healthcare in Canada. Looking at the allocation of GDP for healthcare promotes transparency and accountability within the government and ensures that financial resources are used efficiently. Of the 12.1% of GDP that is allocated towards healthcare expenditures in Canada, around 4.8 billion Canadian dollars (around 3.6 dollars in U.S.D) was set aside for health research expenditures (Vankr, 2023). Having a vibrant health research culture in a country is crucial for the success of that country. Health research is responsible for providing important information about disease trends and risk factors, outcomes

of treatment or public health interventions, functional abilities, patterns of care, and healthcare costs and use (Nass et al., 2009). Canada budgeted a significant amount of money for hospitals. In 2023 Canada allocated 88,129 million Canadian dollars (approximately 64,889 million USD) toward hospitals (Vankr, 2023). The country currently has 1,280 hospitals, 400 of which are in the province of Ontario (Yang, 2023). It is important to note that the dispersion of hospitals in Canada does have a substantial impact on health outcomes. Tollinsky (2021) stresses that the vast geography of Canada impacts equity of care. The maldistribution of healthcare resources in Canada explains why healthcare outcomes in small, rural areas, are worse than in urban centers like London, Toronto, and Ottawa (Tollinsky, 2021). Geography does determine whether you live or die, particularly for Indigenous people (Tollinsky, 2021).

The percentage of GDP allocated towards healthcare in Russia is much lower than the OECD (2023) average of 9.3%. While Canada's high spending doesn't translate to high performance in all areas, Russia's low spending translates to overall low performance (Barchuk et al., 2022). There is very little information available on how funds are distributed in healthcare such as allocation towards research or hospitals. Korsunskaya (2023) points out that most of the spending in Russia is labeled as classified and specific allocations of sources are not shared by the Russian government. Klepach & Luk'yanenko (2023) suggest that the country's response to the COVID-19 pandemic shows just how little the country cares about health research. Klepach & Luk'yanenko (2023) state that the country's poor ability to respond to a crisis, such as COVID-19, shows a low investment in research through the low availability of qualified personnel, high-end equipment, and medicine. Additionally, there are concerns about the aging infrastructure and insufficient funding, resulting in substandard facilities and outdated

medical equipment in some regions (European Observatory on Health Systems and Politics, 2011).

Regarding hospitals in the country, there are currently around 5,000 hospitals operating in Russia (Statista, 2022). This is after a major decrease where over 2,000 hospitals were closed over the past decade (International Citizens Insurance, 2021). This decrease may be largely responsible for the overcrowding and lack of access to care across the country (International Citizens Insurance, 2021). Korsunskaya (2023) notes that a surge in defense and military spending over the past two years has led to cuts in both hospital spending and health research spending.

### *Prevention Culture*

The Public Health Agency of Canada (2023) released a statement saying that the country is focusing on awareness initiatives as a prevention method for cancer. Through awareness education programs, the country hopes to promote prevention behaviors that can be taken by citizens (The Public Health Agency of Canada, 2023). Government programs promote healthier behaviors such as being physically active, sunscreen use, limiting alcohol consumption, and banning nicotine (The Public Health Agency of Canada, 2023). This program has been seen by many as an effective preventative health program. The Public Health Agency of Canada has followed through on its policy promises by introducing programs and enforcing them in all provinces (The Public Health Agency of Canada, 2023).

In the conversation on the global burden of cancer, prevention is highly regarded as the easiest way to address the burden. The global burden of cancer is discussed by Thun et al (2009). Thun et al. (2009) discuss the disproportionate effects of cancer on low and middle-income countries. The article also discusses the major risk factors associated with the global

cancer burden so that health policy can better address the problem at its root. Thun et al. (2009) attribute the aging global population, the popularization of risk behaviors — such as smoking or Western diet — and the slower decline in cancers related to infectious etiologies in low-resource countries than in high-resource countries to the growing burden of cancer across the globe. Thun et al. (2009) conclude that preventative policy is the only way to slow and reverse the global burden of cancer.

Brawley (2017) further highlights the role that governments play in preventive measures. Brawley (2017) breaks down the significant impact government structures can have on reducing the worldwide burden of cancer. Governments possess the capacity to influence the health behaviors of their citizens through policy enforcement that promotes health. Brawley (2007) focuses on seven key areas: tobacco control through public health education, lowering alcohol consumption, reducing carcinogen exposure through strict policy, promotion of healthy eating and active living, sponsorship of clinical interventions, promotion of routine cancer screenings, and improving surveillance and monitoring of public health interventions. By examining these areas, Brawley (2007) underscores where governments can intervene and improve the health of their citizens. By focusing on the areas where governments can improve population health through policy, governments play an active role in addressing the burden.

This is where Canada stands out against Russia. In terms of preventative measures in Russia, the country has embarked on some control initiatives, but not many. A national health check-up program was established in 2013 that includes several diagnostic tests for cancer (Barchuck et al., 2022). However, these programs lack quality control and are not always carried out consistently (Barchuck et al., 2022). Russia introduced a National Strategy for Oncology Treatment and Prevention in 2011 (Rekhter & Ermasova, 2021). The National



Strategy dedicated funds for purchasing specialized cancer diagnostic and treatment equipment, for outreach efforts to encourage screening through prevention visits, and for the training of specialized medical personnel (Rekhter & Ermasova, 2021). However, it is not clear whether these funds were allocated towards what they were promised to go to or not (Korsunskaya, 2023). In 2015, researchers from the Russian National Comprehensive Center and Russian Oncology Association also initiated a National Anti-Cancer Strategy (Rekhter & Ermasova, 2021). This strategy emphasized prevention, screening, and early cancer diagnostics followed by treatment, rehabilitation, and palliative care (Rekhter & Ermasova, 2021). While the program is great in theory, there is no evidence that it is being carried out consistently if at all (Barchuck et al., 2022). This illustrates how the political regime of Russia is shining through its ineffective health policy rollout.

### *Health Literacy*

The health literacy of a nation is a critical determinant of public well-being and healthcare outcomes (Healthy People 2030, 2020). A population with a high level of health literacy possesses the knowledge and skills necessary to understand, interpret, and apply health information, enabling them to make informed decisions about their well-being (Healthy People 2030, 2020). Adequate health literacy contributes to disease prevention, timely medical interventions, and overall better health management (Healthy People 2030, 2020). Healthy People 2030 (2020) pushes countries to empower individuals to navigate complex healthcare systems, comprehend prescription instructions, and engage effectively with healthcare providers. Fostering health literacy is an investment in the resilience and vitality of a society, promoting individual and collective health and contributing to the overall development of a nation (Healthy People 2030, 2020).

Chaikumbung (2021) examines the influence democracies hold on cancer patients' willingness to pay for healthcare services. This analysis concluded that democracy does matter when discussing willingness to pay (Chaikumbung, 2021). Chaikumbung (2021) states that health is made more of a priority in democratic nations and citizens tend to spend more on healthcare leading to better health outcomes. The findings of this article offer support for democracies promoting better health literacy. Nations with better health literacy hold higher standards for healthcare and are more willing to seek out necessary services (Chainkumbung, 2021). Another study conducted by Kinoshita et al. (2024) found that individuals who have higher health literacy participated in more health-promoting behaviors. This study was conducted among health management specialists who scored high in critical and communicative health literacy (Kinoshita et al., 2024). The findings of the study advocate for health literacy to be the focus of policy due to its beneficial effects on the overall health of a nation. Considering the findings of these two studies, I wanted to look at the health literacy of Canada and Russia to possibly explain variations in health outcomes such as cancer mortality. If democracies do prioritize health literacy more than autocracies, it should be shown in Canada and Russia. However, the health literacy of the Canadian population is alarmingly low.

Szasz (2023) acknowledges the statistics provided by the Public Health Agency of Canada stating that 60% of Canadian adults and 88% of seniors are not health literate. Some seniors cannot follow simple instructions on a medicine bottle (Szasz, 2023). This statistic is highly concerning due to the importance of health literacy. Szasz (2023) comments that citizens are not at fault for this. It is the responsibility of the government to provide the Canadian population with the proper community resources to educate citizens on health priorities (Szasz, 2023). It is however a reassuring sign that the Public Health Agency of Canada is aware of their

lack of health literacy and is currently planning on addressing the deficiency through policy (Szasz, 2023).

There is seemingly low interest in the health literacy of citizens as I found no public statistics on the health literacy of Russian citizens. This is alarming to me as health literacy, as seen in the literature above, is such a vital indicator of the health of a nation. Despite low health literacy in Canada, there is acknowledgment from the government that health literacy is an issue and there are active campaigns in the country to adjust this (Szasz, 2023). I found no acknowledgment of health literacy from the Russian government or policy aimed at improving health literacy. This furthers the point made by Chaikumbung (2021) that autocracies show low interest in health literacy despite its importance.

#### Summary of Case Study Findings

As seen through my case study, despite the lack of a clear statistical correlation between cancer mortality rates and freedom scores, there is an intricate web of factors influencing health outcomes in Canada and Russia stemming from the country's regime type. Recognizing the limitations of a singular focus on regime type, such as freedom scores, in explaining health disparities, the case study I conducted was able to illuminate several dynamics at play. Beyond the narrow lens of regime type, I directed my attention towards a range of variables shaping health outcomes, including the structure and functionality of healthcare systems, levels of healthcare investment, and the prevalence of preventive health cultures.

Through this holistic examination, a nuanced understanding of the complex interplay between governance, policy, and public health emerged. While both countries operate under forms of universal healthcare, Canada's system, characterized by comprehensive coverage and

substantial healthcare expenditure, stands in stark contrast to Russia's system, which faces challenges of unequal resource distribution and inadequate funding. Furthermore, the analysis underscored the critical role of health literacy in shaping individual behaviors and healthcare utilization. While Canada acknowledges and endeavors to address its low health literacy rates, Russia's stance on this vital aspect remains unclear, highlighting potential areas for improvement in health policy and public health initiatives. This lack of action taken on behalf of Russia in improving social determinants of health, such as health literacy, may be explained by the regime type and focus of the Russian government. Russia, as an autocratic government, is seen focusing government attention on efforts only serving the government, not the people. This lack of public health focus is something that I predicted going into this case study. However, what I did not expect was the case study also showing how a successful democracy falls short of democratic values when further examined. My Case study found that Canada also struggled with some of the same public health issues that Russia is struggling with such as allocation of resources, prevention culture, and health literacy levels. This lack of alignment between regime type and public health may explain why I did not find a statistically significant relationship between Global Freedom Scores and Cancer Mortality as regime type alone is not enough to showcase the government's inner workings.

In essence, this study contributes to the broader discourse on the determinants of health outcomes by emphasizing the need for a comprehensive understanding of the socio-political, economic, and cultural factors influencing public health. By unpacking the complexities of healthcare systems, investment patterns, and health literacy, this research offers valuable insights into the underlying drivers of health disparities between nations, ultimately informing more targeted and effective interventions aimed at improving population health and well-being.

## Conclusion

In undertaking this thesis, I was able to address the intersection between political science and healthcare recognizing the pivotal role effective governance plays in public health. I questioned whether or not there are discernible patterns linking the form of government to public health outcomes, particularly in the realm of cancer mortality. To tackle this inquiry comprehensively, I adopted a mixed-methods research approach. Statistical analysis was conducted across 20 countries with varying levels of democracy to ascertain if any statistically significant relationship existed between regime type and cancer mortality. Despite the statistical analysis showing no relationship between these two variables, I delved deeper through a case study approach, with the hopes of uncovering factors that lie beneath a country's regime type. In doing so, I was able to identify ways in which governments impact health outcomes and how a country's regime type impacts involvement in public health. This case study summarized variables shaping health outcomes, including the structure and functionality of healthcare systems, levels of healthcare investment, and the prevalence of preventive health cultures. Ultimately, I was able to conclude, through my case study analysis, that while regime type may not be useful for determining public health outcomes, such as cancer mortality, the factors that are seemingly affected by a country's regime type can be used as indicators.

Despite providing a comprehensive case study analysis supplementing for a lack of statistical significance, this thesis has several limitations that warrant acknowledgment. Firstly, the study was constrained by a lack of access to the most up-to-date statistics on cancer mortality, potentially impacting the accuracy and currency of the findings. Additionally, the findings of this study may lack generalizability beyond the context of Canada and Russia, given the specific focus on these two nations. Therefore, caution should be exercised when

generalizing the results to other countries or regions with differing socio-political contexts. Moreover, the absence of statistically significant results in the regression analysis raises questions about the strength of the relationship between cancer mortality and regime type. As such, further research endeavors are warranted to explore alternative methodologies.

I hope that the research provided in this thesis adds to the current conversation on how political regime type impacts public health outcomes. By undergoing statistical analysis and completing a case study, I was able to conclude that regime type alone cannot explain differences in cancer mortality rates. However, I find it clear through my case study analysis of Canada and Russia that factors that may stem from regime type do impact cancer mortality rates. Factors such as healthcare systems, health expenditure, and health culture all can be seen as factors causing variation in health outcomes. I hope that by calling attention to how these factors may differ in democracies and autocracies, I can shine a light on areas of government that can be changed and scrutinized to better improve the health of a nation. Through collaborative efforts between researchers, policymakers, and healthcare practitioners, this research contributes to the ongoing endeavor of promoting population health and well-being on a global scale.

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