

## Cancer Incidence and Mortality Patterns among Indigenous Populations

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### Abstract

Indigenous populations worldwide face unique health challenges, including higher cancer incidence and mortality rates compared to non-Indigenous populations. This article examines the patterns of cancer incidence and mortality among Indigenous peoples, highlighting contributing factors such as genetic predispositions, lifestyle factors, and access to healthcare. By understanding these disparities, we can develop targeted public health strategies to improve cancer outcomes in these communities.

**Keywords:** Indigenous populations; Cancer incidence; Cancer mortality; Public health; Genetic predispositions

### Introduction

Cancer is a leading cause of death globally, with significant disparities in incidence and mortality rates among different population groups. Indigenous populations, including Native Americans, First Nations, Inuit, Métis, Aboriginal Australians, and Māori, often experience higher cancer burdens compared to non-Indigenous populations. These disparities are influenced by a complex interplay of genetic, environmental, and socioeconomic factors [1].

Indigenous populations across the world share common historical and contemporary experiences of colonization, marginalization, and social inequities, which contribute to their distinct health profiles. The historical trauma and ongoing socioeconomic disadvantages faced by these communities have a profound impact on health outcomes, including cancer. For instance, limited access to healthcare services, lower socioeconomic status, and higher rates of behavioral risk factors such as smoking and alcohol use are prevalent in many Indigenous communities and contribute to the elevated cancer burden.

Genetic factors also play a role in cancer disparities. Certain genetic mutations and hereditary conditions that increase cancer risk may be more common in specific Indigenous groups. Additionally, the genetic diversity within and between Indigenous populations may affect how these groups respond to environmental exposures and medical treatments [2].

Environmental factors, including exposure to carcinogens and infectious agents, further exacerbate cancer risks. Indigenous populations often live in areas with higher levels of environmental pollutants and may have higher rates of infections that are known to be cancer risk factors, such as *Helicobacter pylori* and hepatitis B and C. These environmental exposures can lead to higher incidence rates of cancers such as gastric and liver cancers.

Socioeconomic factors are also critical determinants of cancer disparities. Indigenous populations often face barriers to education, employment, and income, which in turn affect their access to healthcare and ability to engage in health-promoting behaviors. The healthcare systems in many countries are not adequately equipped to address the specific needs of Indigenous peoples, leading to delays in diagnosis, lower rates of cancer screening, and poorer quality of care.

This article explores the patterns of cancer incidence and mortality among Indigenous populations, aiming to shed light on the unique challenges they face and the underlying causes of these health inequities. By examining these patterns, we can better understand

the multifaceted nature of cancer disparities and develop targeted interventions to improve cancer outcomes in Indigenous communities. Through a comprehensive approach that includes genetic research, environmental health initiatives, and socioeconomic support, we can work towards reducing the cancer burden and achieving health equity for Indigenous populations [3].

### Discussion

#### Cancer incidence patterns

The incidence of cancer among Indigenous populations varies significantly depending on the region and specific community. Commonly observed trends include higher rates of certain cancers such as lung, liver, stomach, and colorectal cancers. These elevated rates can be attributed to lifestyle factors, such as higher prevalence of smoking, alcohol consumption, and dietary habits. Additionally, infectious agents like *Helicobacter pylori* and hepatitis B and C, which are more prevalent in some Indigenous communities, contribute to higher rates of stomach and liver cancers, respectively.

#### Cancer mortality patterns

Mortality rates from cancer are disproportionately high among Indigenous populations. Several factors contribute to these higher mortality rates, including delayed diagnosis, lower rates of cancer screening, and limited access to advanced medical treatments. Socioeconomic barriers, such as poverty, limited healthcare infrastructure, and cultural differences, also play a critical role in these disparities [4]. Furthermore, Indigenous populations may have a higher prevalence of comorbid conditions, which can complicate cancer treatment and outcomes.

#### Genetic predispositions

Genetic factors contribute to cancer susceptibility in Indigenous

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populations. Studies have identified specific genetic mutations and polymorphisms that are more prevalent in certain Indigenous groups, which may increase their risk of developing particular cancers. However, the lack of comprehensive genomic studies in these populations limits our understanding of the full extent of genetic influences on cancer risk.

### Lifestyle and environmental factors

Lifestyle and environmental factors significantly impact cancer incidence and mortality among Indigenous populations. High rates of tobacco use, alcohol consumption, poor diet, and physical inactivity are common risk factors. Environmental exposures, such as proximity to industrial sites and contaminated water sources, also contribute to higher cancer rates. Addressing these modifiable risk factors through culturally tailored public health interventions is crucial for reducing cancer burden in these communities [5].

### Healthcare access and quality

Access to quality healthcare services is a major determinant of cancer outcomes. Indigenous populations often face significant barriers to accessing healthcare, including geographic isolation, lack of culturally competent care, and socioeconomic disadvantages. These barriers result in lower rates of cancer screening, late-stage diagnoses, and suboptimal treatment, all of which contribute to higher cancer mortality rates [6]. Improving healthcare access and quality for Indigenous populations requires targeted policies and investments in healthcare infrastructure and workforce training.

### Conclusion

Cancer incidence and mortality patterns among Indigenous

populations highlight significant health disparities driven by a combination of genetic, lifestyle, and healthcare access factors. To address these disparities, it is essential to implement culturally appropriate public health strategies that focus on prevention, early detection, and improved access to quality healthcare. By prioritizing the health needs of Indigenous populations and addressing the root causes of cancer disparities, we can work towards achieving health equity and improving cancer outcomes for these communities.

### Acknowledgement

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### Conflict of Interest

None

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