



**Processed Meat Carcinogen Warning Labeling**  
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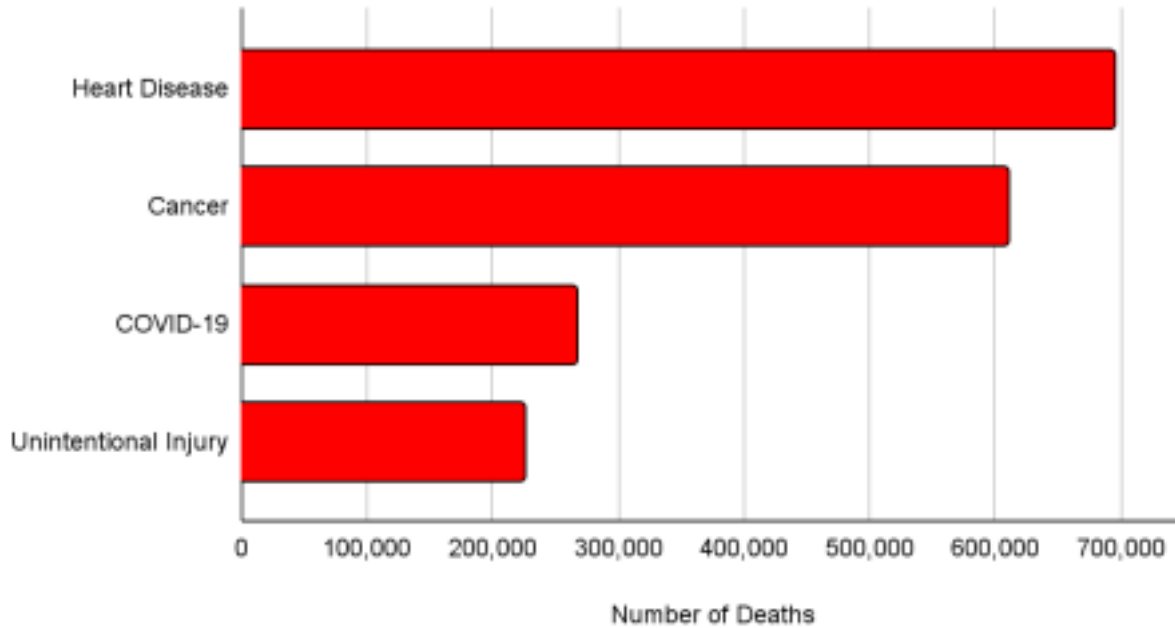


## Introduction

Class one carcinogens are substances known to cause cancer. Processed meats, such as deli meats and hot dogs, contain class one carcinogens, putting them in the same class of carcinogens as cigarettes. Cigarettes require a warning label making people aware of the risks associated with exposure. Processed meats do not. These everyday meat products will continue to cause cancer, bringing great physical, emotional, and financial harm to every community. Awareness in the form of a label is necessary to inform people about the risks associated with these food products. It is important that this be implemented as quickly as possible. Every year that these regulations are not implemented, more people will die from preventable cancer. Regulation will entail spreading awareness through labeling, not restricting individual freedom. It is urgent that we enforce this simple labeling requirement to help people make informed decisions for themselves and their families. This proposition includes no regulation against personal decision-making and requires no changes in the way the meat industry processes meats. This paper will explain why regulation is needed, what must be done, and how it can be implemented.

In the United States, cancer is the second leading cause of death. Simply, cancer is caused by specific genetic changes. Carcinogens are known to cause these changes. Carcinogens are divided into four categories as defined by the International Agency for Research on Cancer (IARC): *Carcinogenic to humans* (group 1), *Probably carcinogenic to humans* (group 2A), *Possibly carcinogenic to humans* (group 2B), and *Not classifiable as to its carcinogenicity to humans* (group 3). According to this organization, processed meat products are classified as *carcinogenic to humans* (group 1) (“IARC Monographs Hazard Classification”).

## Leading Causes of Death in the USA (2022)



This graph illustrates that cancer is the second leading cause of death in America, and was twice as lethal as COVID-19 even in 2022. Adapted from Zandt, Florian. "Infographic: Alzheimer's Is a Leading Cause of Death in the U.S." Statista Daily Data, 21 Sept. 2023, Web Article.

Carcinogens in processed meats are dangerous. People are still constantly consuming them, partially because they may be unaware of the risks they pose to their health. To combat this, I am proposing legally required labeling on processed meat that indicates the increase in cancer risk associated with consumption.



## Background Information

The IARC defines processed meat as “meat that has been transformed through salting, curing, fermentation, smoking or other processes to enhance flavour or improve preservation” (*IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, No. 114*). This includes meats such as bacon, sausages, hot dogs, cured meats, cold cuts, and deli meats. The preservation methods used to make processed meat products can cause carcinogenic compounds, such as nitrites and nitrates, to form. In addition, when meats treated with these processes are cooked or grilled at high temperatures, they can produce even more carcinogens called heterocyclic amines (HCAs) and polycyclic aromatic hydrocarbons (PAHs). While these carcinogens are most commonly linked to colorectal cancer, they can also increase the risk of cancers of the stomach, pancreas, prostate, breast, lung, and esophagus.

## Dangers and Known Solutions

The World Health Organization (WHO) has deemed processed meat a known carcinogen since 2015. Eating processed meat increases your risk for several different cancers. The National Institute of Health (NIH) says that frequent consumption is associated with a 6% greater breast cancer risk, an 18% greater colorectal cancer risk, a 21% greater colon cancer risk, a 22% greater rectal cancer risk, and a 12% greater lung cancer risk (*Consumption of red meat and processed meat and cancer incidence: a systematic review and meta-analysis of prospective studies*). There is a lack of available research by demographic for cancers caused by the carcinogens in processed meats despite the fact that the risk for cancer differs according to specific demographic factors. This means that if you are male, 60 years old or above, or African American or White, you are already at an increased risk for cancer in comparison to people of other sex, age, or race. In addition, immunocompromised individuals are less likely to be able to fight off and recover from cancer. Consequently, those who belong to these demographics and also consume processed meat have a higher risk of developing cancers. These individuals often are not aware of the dangers of processed meat and continue its consumption without knowing that it can increase their already heightened risk for cancer.

According to a study conducted by the American Institute for Cancer Research (AICR), only 40 percent of Americans are aware of the cancer risks associated with the consumption of processed or cured meats. This means that over half of our population is unaware of the increased risk of getting cancer due to the consumption of processed or cured meats. If knowledge of these dangers were more widespread, people, especially those belonging to one of the high risk demographic groups mentioned above, would be aware of the fact that they are risking their health by consuming processed or cured meat. Informative labels could lead to more informed decisions, decreasing the prevalence of cancer-causing foods that people choose to eat. With cancer rates on the rise, it is essential that we quickly develop strategies aimed at fighting cancer. This paper argues that adding warning labels on processed meat products can help decrease the number of cancer cases diagnosed in the U.S. every year from the current rate of two million.

Cancer already significantly impacts lives and communities, and if cancer rates keep rising, this could lead to further issues, such as an overwhelming burden on our healthcare system. A future with a healthcare system strained by high cancer rates, struggling to meet the nation's health needs is a daunting prospect. A significant contributor to these concerns is the widespread consumption of carcinogens, particularly processed meats. One particularly disturbing example is the frequent inclusion of processed meats in children's school lunches, exposing them to potential cancer risks unknowingly. Some downplay these concerns, arguing that the occasional consumption of processed foods is harmless. While I acknowledge that infrequent consumption might not lead to cancer, the problem lies in the regularity of consumption for many. Many people, unaware of the carcinogenic risks, consume these products daily. This habitual intake is where the real danger lies.

Cancers linked to known carcinogens can be mitigated by reducing our exposure to these harmful substances. A key aspect of this involves our consumption of processed meats. Addressing this aspect of the cancer issue is simple, yet cancer rates continue to rise. This increase is partly due to a lack of awareness among people about the risks associated with what they consume. Cancer rates can be decreased by implementing strategies to increase awareness of this issue, similar to how cigarette labeling was mandated. Increased awareness

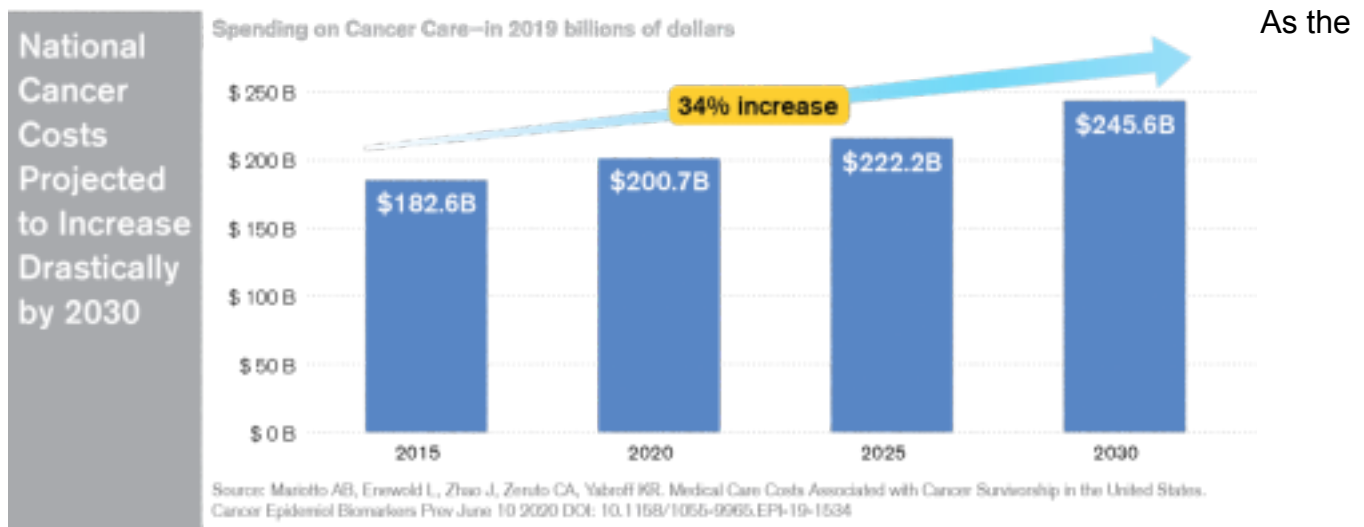


and education about carcinogens in everyday items, particularly in our diet, can empower individuals to make healthier choices, thereby reducing their risk of developing cancer.

## Financial Considerations

In addition to the harsh emotional and societal burdens, there is an extreme financial cost to cancer. According to the NIH, as of August 2023, medical treatment for the average cancer patient costs \$43,516.1 for initial care, \$5,517.6 for continued treatment, and \$109,727.3 in the last year of their life (*Financial Burden of Cancer Care*). These costs do not include the oral drugs that some cancer patients are prescribed, which on average cost \$1,873.9 for initial care, \$1,041.1 for continued treatment, and \$4,372.4 in the last year of their life (*Financial Burden of Cancer Care*). These statistics are averages between all cancers, though costs can vary depending on type and location of cancer. These high treatment costs accumulate over millions of cases to a total of 208.9 billion dollars (\$208,900,000,000) in national expenditures for cancer care as of 2020. These numbers will continue to increase as cancer cases rise nationwide and worldwide.

Individual costs for cancer treatment could harm a person's ability to pay for everyday expenses. Average costs for initial care compare to the price of a car, and average costs in the last year of someone's life compare to the cost of buying a small house. By reducing cancer rates, we could help someone afford these basic life expenses that they may not be able to afford after paying for cancer treatment. In addition, families affected by cancer may inherit the burden of medical debt from this treatment after their loved one passes away. Cancer is extremely costly nationally and individually, so we should do everything we can to reduce its rates.



infographic above (*Overall Cancer Costs are Rising*) shows, national cancer expenditures are projected to increase by tens of billions of dollars by 2030. The projection shown in the graph harms both our country as a whole because we are spending our money on a disease that we could be preventing before it occurs and individuals who need to pay for their own or a loved one's cancer treatment.



## Comparable Restrictions and Precedence

In the US, cigarettes are required to have warning labels to let consumers know about their danger and to let them know that quitting smoking reduces their risk of developing diseases such as cancer. This requirement was implemented by federal law Title 15 Chapter 36, titled “The Cigarette Labeling and Advertising Act.” It reads as follows:

It shall be unlawful for any person to manufacture, package, or import for sale or distribution within the United States any cigarettes the package of which fails to bear, in accordance with the requirements of this section, one of the following labels:

SURGEON GENERAL'S WARNING: Smoking Causes Lung Cancer, Heart Disease, Emphysema, And May Complicate Pregnancy.

SURGEON GENERAL'S WARNING: Quitting Smoking Now Greatly Reduces Serious Risks to Your Health.

SURGEON GENERAL'S WARNING: Smoking By Pregnant Women May Result in Fetal Injury, Premature Birth, And Low Birth Weight.

SURGEON GENERAL'S WARNING: Cigarette Smoke Contains Carbon Monoxide.

The law this paper is proposing could be modeled on this law. Despite stringent regulations on cigarette labeling, it is perplexing that numerous other products containing the same category of carcinogens do not have similar labeling requirements. It seems inconsistent that while one cancer-causing product is mandated to carry warning labels, others are sold without providing consumers with the necessary information to understand their potential risks. Advocating for mandatory carcinogen labeling on foods that contain these substances is a logical step, aligning with the precedents set for tobacco products. This consistency in public health policy would increase consumer awareness and potentially contribute to better health outcomes.



## Proposed Labeling

Carcinogen warning labels must be clearly printed on packages of processed meats. This research paper recommends adding carcinogen symbols on the front of packages in the same way symbols are currently placed on the front of food packages to indicate that they have traits such as gluten-free, non-GMO, or vegan. Additionally, since the symbol for carcinogenicity is not yet widely known, products should also include an explanation of what the symbols mean. This paper recommends that these explanations be placed on the back of the package near the nutrition label and ingredients. This explanation should say that processed meat contains carcinogens, which can increase your risk of cancer. Labels could range from a simple warning to a detailed message as long as the essential elements are present and it is clear that the product increases a person's cancer risks. Below are some examples of the messages that this paper proposes need to be added to processed meat products' packaging:

- Processed meat products contain class one carcinogens, which increase the risk of cancer.
- Processed meats can cause health problems, including an increased risk of cancer.
- This product contains carcinogenic ingredients, which increase cancer risk.



This image illustrates a commonly accepted carcinogen warning symbol that could be displayed on potentially carcinogenic products.



This image illustrates the food product section that already contains various food labels. The carcinogen warning symbol could be placed among these symbols.

| <b>Nutrition Facts</b>   |                    |                      |           |
|--------------------------|--------------------|----------------------|-----------|
| 2 servings per container |                    |                      |           |
| <b>Serving size</b>      |                    | <b>1 cup (255g)</b>  |           |
| <b>Calories</b>          | <b>Per serving</b> | <b>Per container</b> |           |
|                          | <b>220</b>         | <b>440</b>           |           |
|                          | <b>% DV*</b>       | <b>% DV*</b>         |           |
| <b>Total Fat</b>         | 5g                 | 6%                   | 10g 13%   |
| Saturated Fat            | 2g                 | 10%                  | 4g 20%    |
| Trans Fat                | 0g                 |                      | 0g        |
| <b>Cholesterol</b>       | 15mg               | 5%                   | 30mg 10%  |
| <b>Sodium</b>            | 240mg              | 10%                  | 480mg 21% |
| <b>Total Carb.</b>       | 35g                | 13%                  | 70g 25%   |
| Dietary Fiber            | 6g                 | 21%                  | 12g 43%   |
| Total Sugars             | 7g                 |                      | 14g       |
| Incl. Added Sugars       | 4g                 | 8%                   | 8g 16%    |
| <b>Protein</b>           | 9g                 |                      | 18g       |
| Vitamin D                | 5mcg               | 25%                  | 10mcg 50% |
| Calcium                  | 200mg              | 15%                  | 400mg 30% |
| Iron                     | 1mg                | 6%                   | 2mg 10%   |
| Potassium                | 470mg              | 10%                  | 940mg 20% |

\* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

This image shows an example of a nutrition label that could be found on a food product. The red circle shows a place where additional facts are sometimes displayed. Companies have the option to add more information on the potential carcinogenicity of their products.



## Sanctions

Based on this paper's analysis of sanctions in comparable laws, specifically the laws regulating cigarette labeling, it proposes that any person who violates the provisions of this chapter shall be guilty of a misdemeanor and shall, on conviction thereof, be subject to a fine of not more than \$10,000. This is the same as the sanctioning in the Cigarette Labeling and Advertising Act. This paper expects a period of six months for companies to design labels before sanctions are in effect. This is a reasonable amount of time because it is of extreme importance that people are informed of the risk to their health. While this paper acknowledges that companies may need significant time to plan, design, and print new labels for their products, it expects six months to be fair and reasonable. After this time, fines may be imposed on products manufactured after the six-month grace period. Products manufactured before or during the six-month grace period may continue to be sold, but any affected product must include warning labels on all units produced on or after the date six months from the law's enactment.

## Rebuttal

Some may question the necessity of government regulation in the food industry or think it will limit their personal choice. The label I am proposing does not enforce any limitation on personal decisions; it only helps consumers to be more informed. Similarly to cigarettes, processed meats will still be just as widely available for purchase, only now they will contain a label designed to inform consumers instead of limiting them. It is extremely important that people be aware of the health risks of processed meats. Throughout my life, the people around me have always pushed cancer to the side. Even though rates are constantly on the rise and it remains one of the top killers in the world, I feel as though I have always been surrounded by people feeling helpless and giving up on preventing cancer. They justify this by saying that since it is so common and has so many causes and forms, it is inevitable, and the best thing you can do is not to worry about it until you are old enough to be at an especially increased risk. However, factors such as carcinogens significantly increase one's risk of getting cancer. This means we can prevent some cancers simply by limiting the intake of carcinogenic substances. My proposed labels can inform people of their risk and may influence them to make healthier decisions and, therefore, lower their cancer risk, which could lower cancer rates nationwide. In addition, I would like to point out that the sanctions I propose would not impact individuals, only companies violating the labeling rule. This paper's proposed labeling law will not harm individuals.

Regardless of opinions on matters such as government control, people generally agree that cancer is a significant problem both in the United States specifically and throughout the whole world. There is no pro-cancer movement. My proposition provides a chance to lower cancer rates nationwide without causing much controversy regarding government control or restriction of personal choice.

While companies and their supporters may oppose regulation, this warning label is clearly justified. Cigarette companies face the same regulation for their products that contain the same class of carcinogens as processed meats. There is no reason one industry should be allowed to sell carcinogenic products to unknowing consumers while another must provide a warning. These meat products contain the most dangerous class of carcinogens, but many consumers are left unaware. This is a threat to public health because carcinogens are significant contributors to cancers. Companies that produce processed meats, like companies that produce cigarettes, will be able to continue to sell the same products, and as many people still choose to smoke, many will likely continue to purchase processed meats. This paper does not put any further regulations on the sale or consumption of processed meats. A warning label, as proven by this paper, is a justified means of regulating processed meats.



## Conclusion

Cancer rates are on the rise both nationally and worldwide. This is causing a significant burden on our society physically, emotionally, and financially. Because of this, I believe we should be doing anything we can to reduce cancer rates. Carcinogens are dangerous and can significantly

increase the risk of cancer. Although carcinogens are very harmful, there is a simple solution: limit intake of known carcinogens. Processed meats contain known carcinogens, so one can reduce their risk of cancer simply by choosing to eat less processed meat. The only problem is that people may be unaware of the carcinogens in the meats they are ingesting. The best way to fix a problem of lack of knowledge is to find a simple way to educate consumers about products they may be buying. A simple carcinogen warning label on these products would help solve the problem of unawareness of the risks. This solution is also very simple since cigarettes are already required to be labeled. So much effort has already been made to make this similar law and my proposition can follow the same model as the Cigarette Labeling and Advertising Act. Cancer is becoming increasingly more common in our country and our world. I am proposing a simple way to help put a damper on cancer. Helping people make more educated choices about the carcinogens they may be putting in their bodies is a way we can chip away at one piece of our immense cancer problem.



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