

REDUCING

CANCER
RISK FACTORS

IS POSSIBLE

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THE FOOD WE EAT,
HOW ACTIVE WE
ARE AND HOW
MUCH WE WEIGH
ARE ALL THINGS
THAT INFLUENCE
OUR RISK OF
CANCER, AND ALL
OF THESE FACTORS
ARE MODIFIABLE -
THERE ARE THINGS
PEOPLE CAN DO TO
REDUCE THEIR RISK.

DR. KATE ALLEN,
EXECUTIVE DIRECTOR,
SCIENCE AND PUBLIC AFFAIRS



EXECUTIVE SUMMARY



The incidence rates and cost per treatment of cancer has been rising at an alarming rate in Latin America and the Caribbean over the past three years, rising nearly 40% and 15% respectively. Additionally, on average, cancer is also detected at much more advanced stages in this region of the world when compared to OECD Nations¹ which reduces survival rates and increases cost of treatment. This troublesome trend has resulted in an increase of nearly 20% in medical costs associated with cancer treatment and has contributed to continuing premium increases in the private health industry.

The good news is that approximately 50% of all cancers are preventable and more effective cancer detection exams are available each year, allowing people to detect cancer at much earlier stages where survival rates increase dramatically and treatment costs are much lower.

Companies have an opportunity to achieve claims savings and more stable premium costs over the long term on their employee benefits policies while helping their employees reach optimal health status by focusing on simple, low cost preventive care and wellness.



5.2 MILLION Covered Lives

As leaders in the health insurance industry and as premier healthcare thought leaders, PALIG prepared this report to raise awareness of the primary risk factors for cancer—more specifically, the preventable ones—and demonstrate the benefits of fostering a culture of prevention and wellness.

By closely collaborating with multinational and local employer groups, brokers, leading medical providers, and plan members, PALIG is committed to delivering innovative benefits solutions and providing plan members with the tools and evidence based data they need to make informed decisions, identify potential risk factors through personalized health risk assessments and preventive screenings, and that way, achieve optimal health.

More than
100 YEARS in the
AMERICAS



¹ OECD nations include: Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom and the United States.



INTRO DUCTION

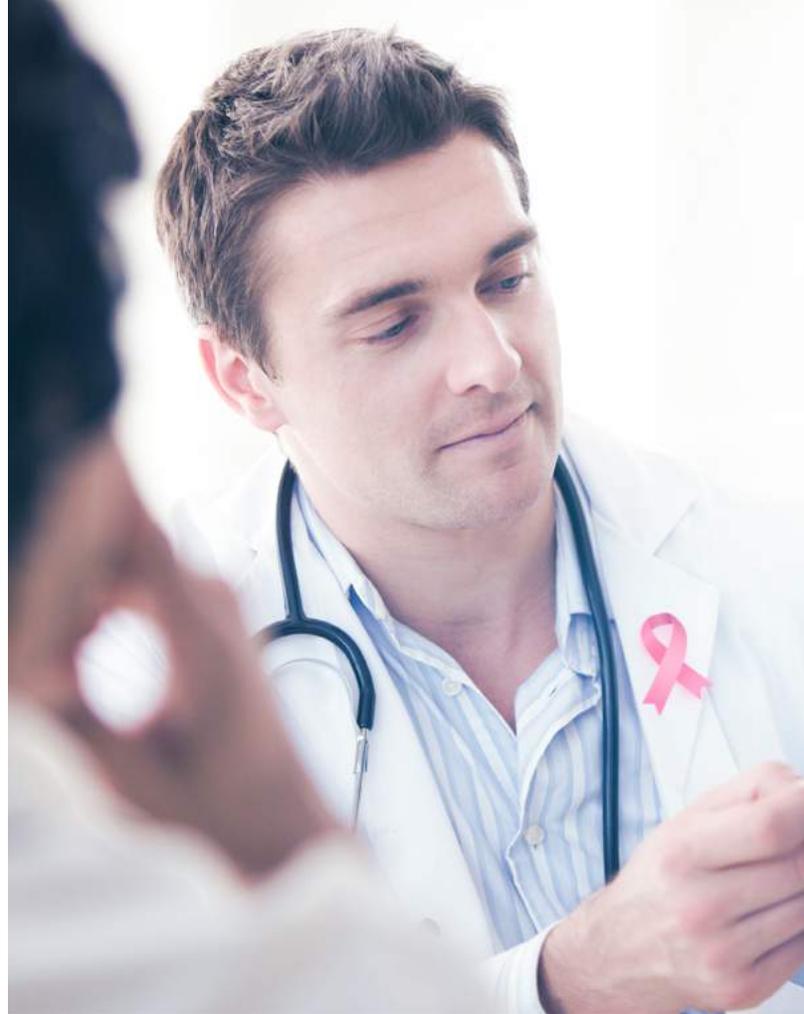
This report aims to put into perspective the health/sickness phenomenon from the standpoint of cancer, as well as to learn and understand a little more about the factors that are directly influencing the logarithmic growth of occurrences of cancer in the world.

Cancer is the second leading cause of death around the world after cardiovascular diseases. Statistics indicate that half of men, and a third of women, will develop cancer at some point in their lives.

AROUND **38.4%** OF MEN AND WOMEN IN THE UNITED STATES WILL RECEIVE A CANCER DIAGNOSIS IN THEIR LIFETIME². **CANCER CASES WILL INCREASE BY 27%** BETWEEN NOW AND 2030.

Nevertheless, research has proven that some cancer risk factors can be controlled. Lifestyle, eating habits, exercise, and tobacco and alcohol use contribute significantly to the risk of developing this disease.

Cancer prevention, and prevention of non-communicable diseases (NCD) in general, like heart disease and diabetes, consists primarily in striving to reduce the main risk



factors in order to avoid further deaths from these diseases.

This report identifies the main risk factors and provides the necessary information to potentially reduce the risk of cancer. Although cancer can have a hereditary and genetic component, studies that analyzed the link between “lifestyle patterns” and cancer estimate that between **20% and 40% of cancer cases and half of all deaths from this disease could be prevented** by modifying aspects of our lifestyle³. The lifestyle changes⁴ that should be made according to these findings are in the hands of the reader.

This report seeks to inform and instruct a large number of people about the daily risk of developing cancer presented by infectious

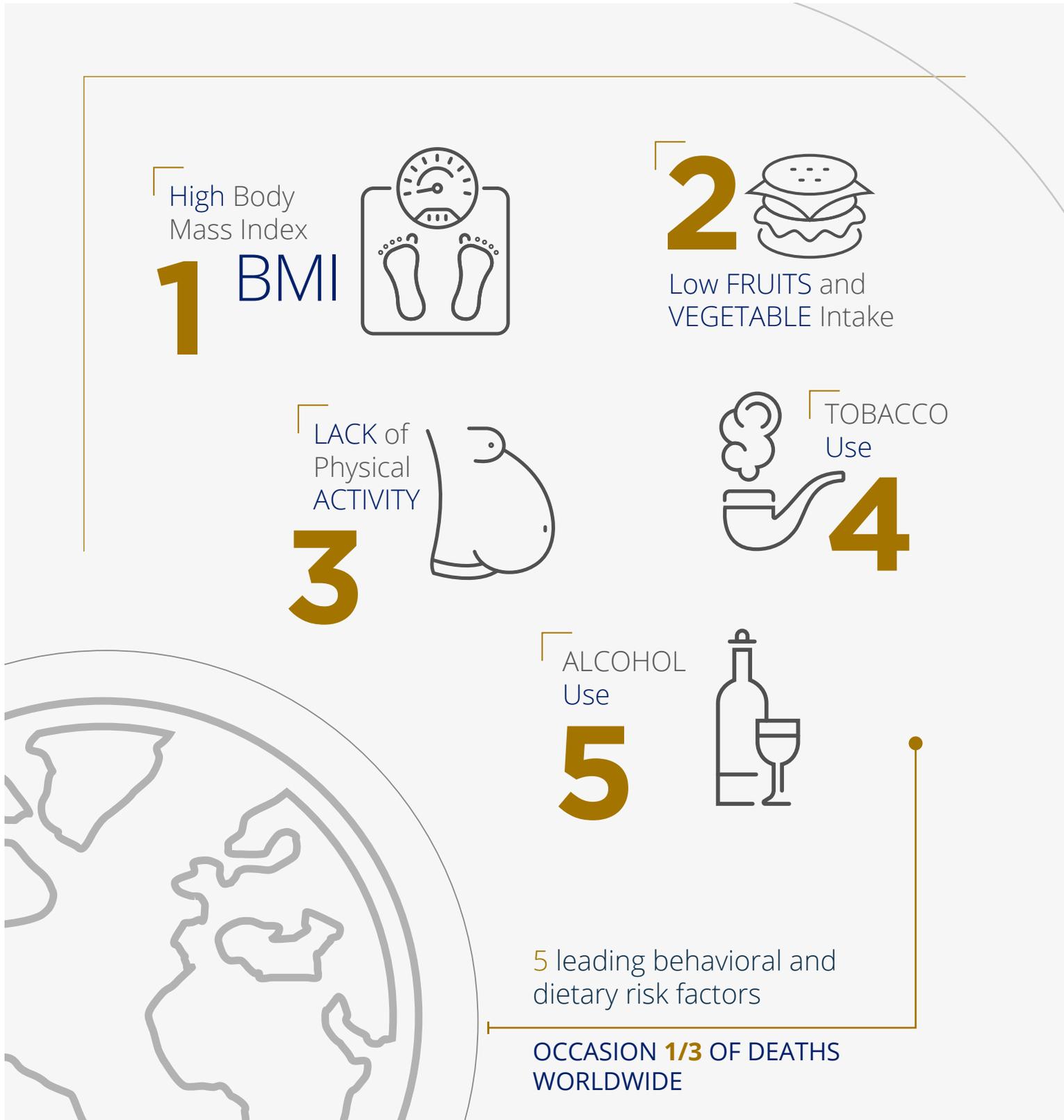
² <https://www.cancer.gov/espanol/cancer/naturaleza/estadisticas>

³ <https://jamanetwork.com/journals/jamaoncology/fullarticle/2522371>

⁴ <https://www.wcrf.org/dietandcancer/exposures>

agents, foods, pollution, and a sedentary lifestyle, and explain the steps that can be taken to minimize or offset this risk.

Around a third of cancer deaths can be attributed to 5 leading behavioral and dietary risk factors, according to the World Health Organization (WHO):



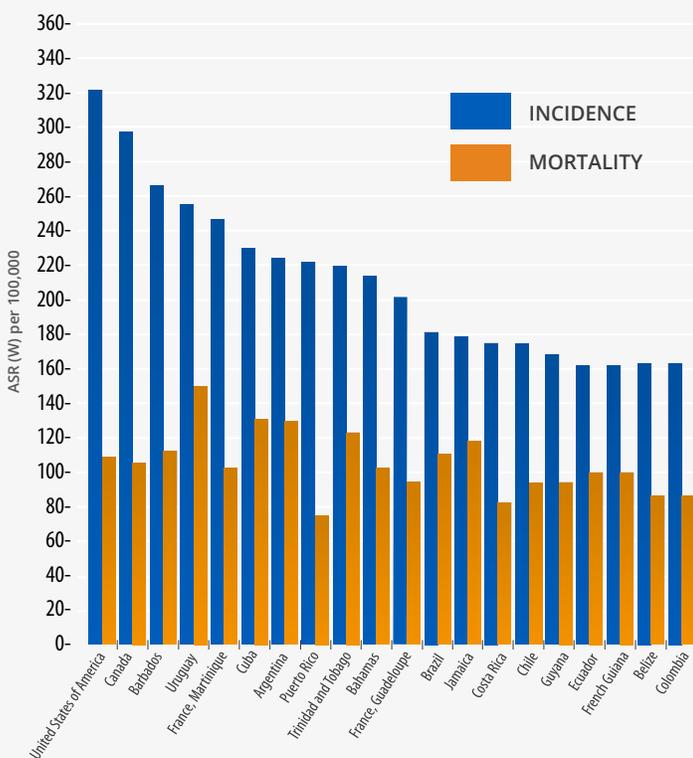
CANCER IN LATIN AMERICA



Regardless of whether you are male or female, if you live in Latin America, you are almost twice as likely to die from cancer than if you reside in the United States or Europe. This is mostly due to economic inequality, a lack of policies and prevention campaigns, and the eating and health habits of the region.

The number of cancer cases diagnosed in Latin America is less than in Europe or the United States. Nevertheless, Latin America has almost double the mortality rate from cancer. If this trend does not change, specialists fear a cancer epidemic in the continent in the next few years.

ALL CANCERS EXCL. NON-MELANOMA SKIN CANCER: BOTH SEXES, ALL AGES



Source: GLOBOCAN (2012) IARC (11.9.2018)

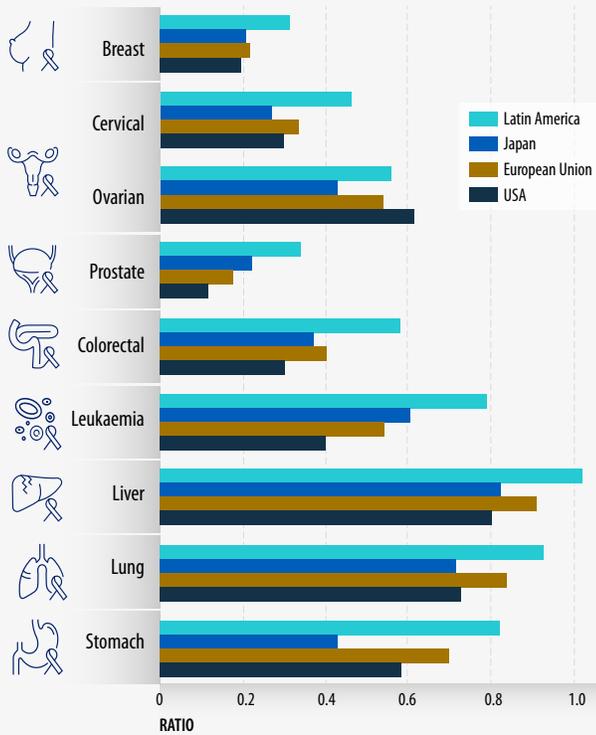
The mortality-to-incidence ratio for all types of cancer in Latin America is 0.59, in comparison with 0.43 in the European Union and 0.35 in the United States. These ratios also vary within Latin America, from 0.39 in Puerto Rico to 0.65 in Belize, Honduras, and Guatemala.

The problem, as highlighted in a report by The Lancet Oncology Commission⁴, is that many patients are diagnosed too late, which directly influences the cancer mortality rate in the American subcontinent.

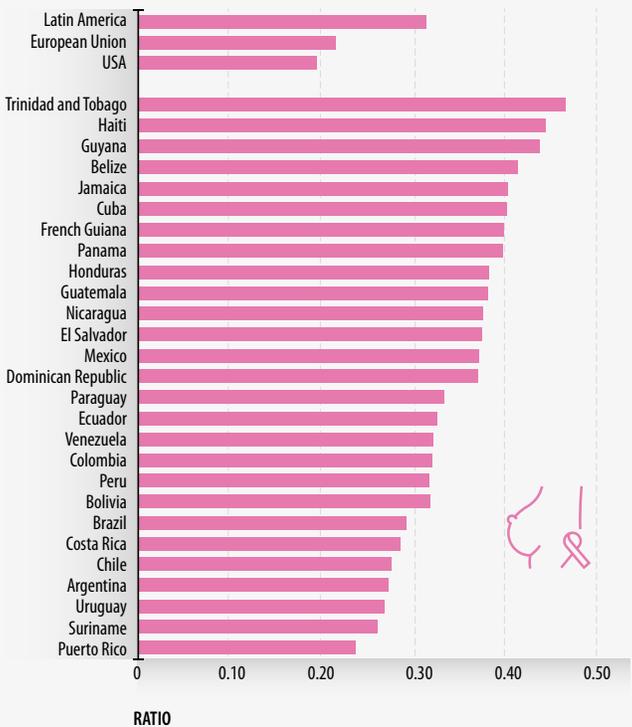
The document indicates that the occurrence of cancer throughout Latin America is 163 cases for every 100,000 inhabitants, lower than the 300 cases per 100,000 in the United States and 264 per 100,000 in European countries. However, there is an inversely proportional number of deaths for this diagnosis, which amounts to **13 victims for every 22 cases** of cancer in Latin America compared to 13 deaths for every 30 cases in Europe and 13 for every 37, approximately, in the United States.

⁴ The Lancet, Oncology Commission, "Planning cancer control in Latin America and the Caribbean"

A MORTALITY-TO-INCIDENCE RATIOS BY CANCER TYPE



B BREAST CANCER MORTALITY-TO-INCIDENCE RATIOS



The Lancet study references another example:

IN THE UNITED STATES, **60%** OF BREAST CANCER CASES ARE DIAGNOSED IN THE **FIRST STAGES**, WHILE IN BRAZIL ONLY **20%** ARE, AND IN MEXICO ONLY 10% ARE **DIAGNOSED IN AN EARLY STAGE**.

The GLOBOCAN Project estimated that in 2012 there were 1,000,000 cases of cancer (excluding non-melanoma skin cancer) and half a million deaths from cancer in Central and South America. It predicted that by the year 2030, these numbers will be 1.7 and 1 million, respectively⁵.

ADDITIONAL STATISTICS:

- Cancer is one of the leading causes of morbidity and mortality in the world.
- The number of cases is expected to increase by approximately 70% in the next 2 decades.
- Cancer is the second leading cause of death worldwide and was responsible for 8.8 million deaths in 2015. Worldwide, nearly 1 out of every 6 deaths is due to cancer.
- Approximately 70% of deaths from cancer occur in low-or middle-income countries.
- The most developed countries have the highest occurrence of cancer.
- Around one third of cancer deaths are due to 5 leading behavioral and dietary risks: high body mass index, low fruit and vegetable intake, lack of physical activity, tobacco and alcohol use.
- Tobacco use is the most important risk factor for cancer and is responsible for approximately 22% of deaths from the disease.
- Cancer-causing infections, like hepatitis and the Human Papillomavirus (HPV), are responsible for up to 25% of cancer cases in low-and middle-income countries.

⁵ <http://globocan.iarc.fr/Default.aspx>



CANCER STATISTICS AROUND THE WORLD



INCIDENCE

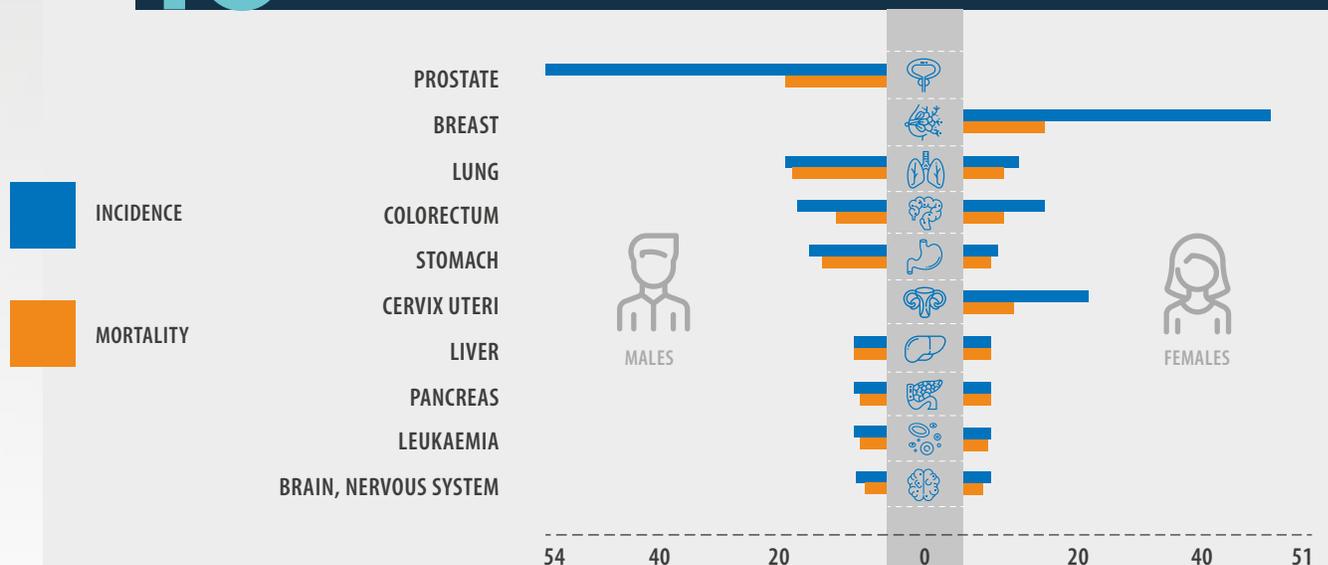


MORTALITY



	INCIDENCE			MORTALITY		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
NORTH AMERICA	344.2	295.4	315.6	123.2	91.7	105.5
WESTERN EUROPE	343.7	263.7	298.7	131.3	83.6	105
NORTHERN EUROPE	298.4	263.9	277.4	126.2	94.4	108.2
SOUTH EUROPE	297.6	220.4	253.6	137.9	78.9	105.2
CENTRAL AND EASTERN EUROPE	260	193.5	216.1	173.4	91.6	123.4
EAST ASIA	225.4	151.9	186	159.3	80.2	117.7
SOUTH AFRICA	210.3	161.1	177.5	136.5	98.7	112.5
CARIBBEAN	207.7	168	185.4	119.8	87.7	102
SOUTH AMERICA	206.7	180.6	190.6	118	88.4	101.2
WESTERN ASIA	192.8	150.2	168.2	129.3	81.3	103
SOUTHEAST ASIA	147.6	132.6	138.2	114.1	79.5	94.8
NORTH AFRICA	133.5	127.7	129.7	99.9	75.7	86.8
CENTRAL AMERICA	125.8	141.9	133.6	76.6	72.1	73.7
EAST AFRICA	120.7	154.7	137.8	103.8	110.5	106.5
SOUTH ASIA AND CENTRAL	98.4	103.3	100.1	74.8	64.7	69.3
CENTRAL AFRICA	91.8	110.7	100.8	82.3	82.3	81.2
WESTERN AFRICA	78.7	112.4	95.3	68.5	75.7	71.6

TOP 10 MOST COMMON AND DEADLIEST TYPES OF CANCER IN LATIN AMERICA IN MEN AND WOMEN*



Source: GLOBOCAN 2012 e International Agency for Research on Cancer 2018

* Global Cancer Observatory, Cáncer Today



RISK FACTORS

The most effective strategy for controlling cancer is through primary prevention, that is, by reducing the main risk factors and through public health measures that protect the population's health and wellbeing.

Although genes can influence the probability of developing some types of cancer, for the most part risk is due to non-genetic factors that can be changed. Among them are obesity, tobacco and alcohol excessive use.

Some types of cancer are related to infectious agents, like the human papillomavirus (HPV), the hepatitis B virus (HBV) and H. pylori, a type of bacteria that can remain in the digestive tract following infection and develop into stomach cancer years later.

Exposure to pollutants found in the environment is also a risk factor. Excessive exposure to ultraviolet (UV) rays, from sunlight as well as from tanning beds and lamps, is an example of a preventable environmental risk factor. People that are frequently exposed to UV rays have a higher risk of skin cancer.

The International Agency for Research on Cancer (IARC) classifies factors into five groups. The first three groups include factors that have been confirmed to be carcinogenic to humans; probably carcinogenic; and possibly carcinogenic. Groups 3 and 4 include factors that are probably not associated with cancer or whose carcinogenicity has not been proven in humans.

Group 1 includes mainly toxic agents like alcohol, tobacco, processed food, the sun, environmental pollution, diesel exhaust, and exposure to hormonal contraceptives among the 118 agents identified as cancer promoters. Exposure to the large majority of these agents that we "know" cause cancer is by personal choice, and they are completely avoidable.

A ROUGH GUIDE TO IARC CARCINOGEN CLASSIFIES

The International Agency for Research on Cancer (IARC) classifies substances to show whether they are suspected to cause cancer or not. It places substances into one of five categories depending on the strength of evidence for their carcinogenicity.

GROUP	WHAT DOES IT MEAN?	WHAT DOES IT INCLUDE?
GROUP 1	CARCINOGENIC TO HUMANS Sufficient evidence in humans. Causal relationship established.	 Smoking, exposure to solar radiation, alcoholic beverages and processed meats.
GROUP 2A	PROBABLY CARCINOGENIC TO HUMANS Limited evidence in humans. Sufficient evidence in animals.	 Emissions from high temp. frying, steroids, exposures working in hairdressing, red meat.
GROUP 2B	POSSIBLY CARCINOGENIC TO HUMANS Limited evidence in humans. Insufficient evidence in animals.	 Coffee, gasoline & gasoline engine exhaust, welding fumes, pickled vegetables.
GROUP 3	CARCINOGENICITY NOT CLASSIFIABLE Inadequate evidence in humans. Inadequate evidence in animals.	 Tea, static magnetic fields, fluorescent lighting, polyethene.
GROUP 4	PROBABLY NOT CARCINOGENIC Evidence suggests no carcinogenicity in humans/animals.	1 ONLY 1 CHEMICAL EVER PLACED IN THIS GROUP, OF ALL SUBSTANCES ASSESSED Caprolactam, which is used in the manufacture of synthetic fibres.

THE IARC'S INDEX ONLY TELLS US HOW STRONG THE EVIDENCE IS THAT SOMETHING CAUSES CANCER. SUBSTANCES IN THE SAME CATEGORY CAN DIFFER VASTLY IN HOW MUCH THEY INCREASE CANCER RISK.

Source: © Andy Brunning, Compoundchem.com



THE IMPACT OF OBESITY



Being overweight or obese is linked to a higher overall risk of cancer. There is solid data that proves the link between colon, kidney, gallbladder, breast and endometrial cancers and obesity as a result of unhealthy eating habits and lack of physical activity.

Diets rich in fruits and vegetables, with a high fiber content, little red and processed meat, and limited alcohol use, along with physical activity and maintaining a healthy weight, have been associated with a lower risk of cancer.

Obesity is a growing problem in Latin America and is the primary general risk factor of heart diseases and diabetes. It is estimated that around 139 million people (23%) are overweight or obese. There are more overweight or obese women than men in almost all Latin American countries, but the differences are particularly evident in the Andean region (Ecuador, Bolivia and Peru), where obesity among women is twice that of men⁶.

It is anticipated that 50% of men and 60% of women in Latin America will be overweight or obese. The rates of obese and overweight children have reached epidemic proportions, with approximately 30% of school-age children in Colombia, Peru and Ecuador and more than 40% of children in Mexico overweight or showing signs of obesity.

OBESITY IN LATIN AMERICA SELECTED COUNTRIES

Prevalence of obesity (BMI ≥30) in adults (%)

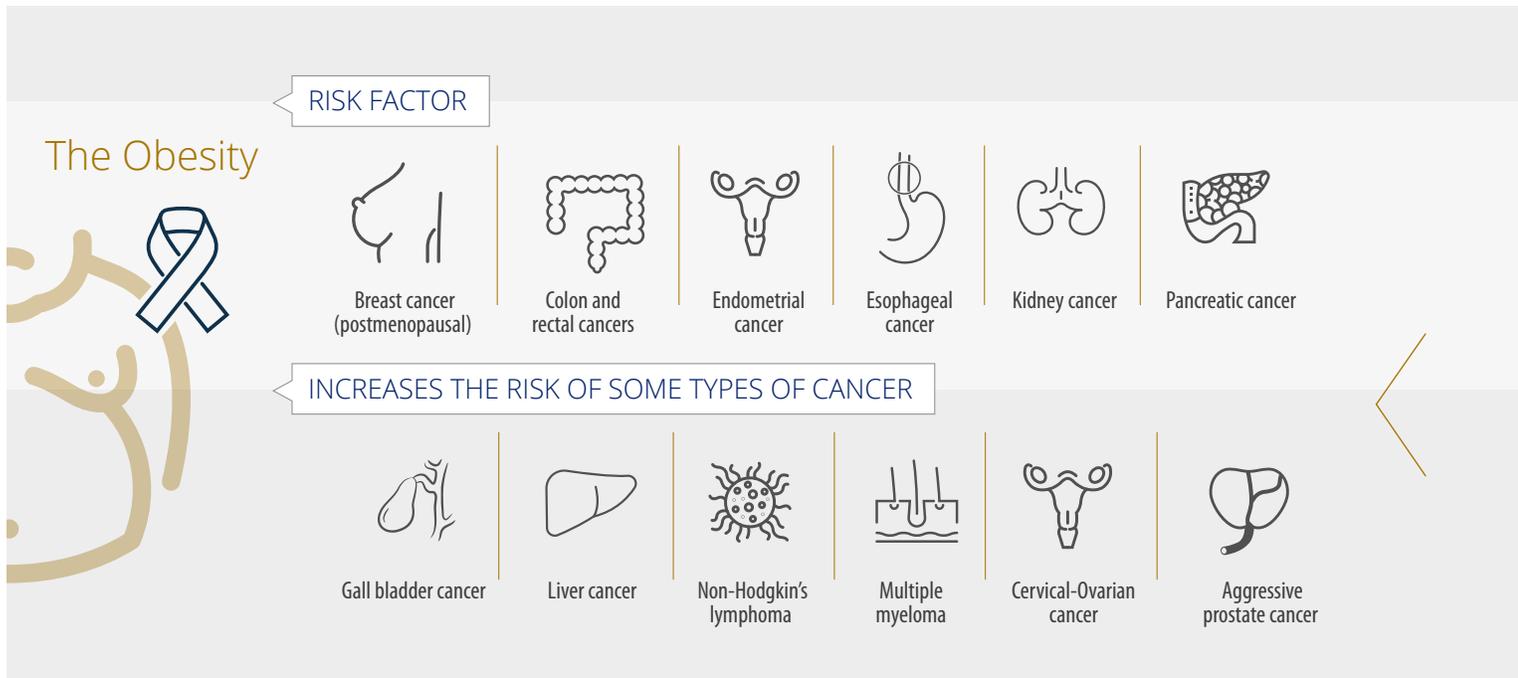
		Males	Females
	TOTAL		
Argentina	20.5%	22.0%	19.0%
Brazil	16.9%	16.7%	18.1%
Chile	25.1%	19.2%	30.7%
Colombia	13.7%	NA	NA
Costa Rica	26.0%	21.2%	31.0%
Ecuador	22.0%	15.7%	28.2%
Mexico	NA	26.1%	35.6%
Panama	3.0%	2.0%	4.1%
Peru	16.5%	11.1%	21.7%
Suriname	25.8%	16.5%	34.6%
Uruguay	19.9%	19.4%	20.5%
Venezuela	30.8%	26.6%	34.8%
Bolivia	18.9%	10.0%	27.1%
El Salvador	23.7%	19.9%	27.1%
Guatemala	21.3%	16.0%	25.8%
Guyana	22.4%	14.3%	26.9%
Honduras	19.3%	15.5%	24.5%
Nicaragua	29.1%	23.8%	34.2%
Paraguay	31.3%	28.5%	25.4%

BMI=body-mass index. NA=not available.

Source: Planning cancer control in Latin America and the Caribbean

According to research by the American Cancer Society, excess weight is responsible for approximately 8% of all cancers in the United States, as well as approximately 7% of all cancer deaths. The World Cancer Research Fund estimates that around 20% of all cancers diagnosed in the United States are related to body fat, physical inactivity, excessive alcohol use and/or poor nutrition. All of these habits are preventable⁷.

Obesity is a risk factor for different types of cancer, in addition, it is likely that obesity increases the risk of cancers as indicated in the diagram below:



Physical activity/inactivity and diet affect the risk of cancer⁸.

		DECREASED RISK OF CANCER			INCREASED RISK OF CANCER		
		PHYSICAL ACTIVITY Colon	DIETARY FIBER Colorectum		OVERWEIGHT AND OBESITY Esophagus Pancreas Colorectum Breast (post-menopause) Endometrium Kidney	AFLATOXINS Liver RED MEAT Colorectum PROCESSED MEAT Colorectum	ALCOHOL Mouth Pharynx Larynx Esophagus Colorectum Liver Breast
THE CANCER ATLAS	CONVINCING						
	PROBABLE	PHYSICAL ACTIVITY Breast (post-menopause) Endometrium	ALLIUM VEGETABLES Stomach GARLIC Colorectum MILK Colorectum	CALCIUM Colorectum NON-STARCHY VEGETABLES Mouth Pharynx Larynx Esophagus Stomach	OVERWEIGHT AND OBESITY Gallbladder ADULT WEIGHT GAIN Breast (post-menopause) MATÉ Esophagus	CANTONESE-STYLE SALTED FISH Nasopharynx SALT-PRESERVED FOODS & SALT Stomach DIETS HIGH IN CALCIUM Prostate	ABDOMINAL FATNESS Pancreas Breast (post-menopause) Endometrium

⁷ The Importance of Weight Control, Physical Activity, and Diet in Cancer Prevention
⁸ The Cancer Atlas





THE TOBACCO EPIDEMIC

Tobacco use is associated with around 16 types of cancer and is responsible for more than 20% of all cancer deaths in the world. Smokers are 15 to 30 times more likely to develop lung cancer than non-smokers.

According to "The Cancer Atlas," which is published periodically by the American Cancer Society, an estimated 1.3 billion people around the world currently use tobacco. Thanks to anti-tobacco public health campaigns and measures that significantly restricted smoking areas, many countries successfully curtailed the use of tobacco. In the United States, almost 40% of the reductions in cancer death rates for men between 1991 and 2003 is attributed to the decrease in tobacco use in the last 50 years. Nevertheless, progress in this area is not fast enough, and there is still much work to do to end the tobacco epidemic.



In Latin America, tobacco use contributes to 26% of all cancer deaths and 84% of deaths from lung cancer⁹. Besides lung cancer, tobacco use has been connected with a greater risk for cancers of the mouth, larynx, pharynx, esophagus, liver, pancreas, stomach, kidney, bladder, cervix, intestine, and possibly breast cancer.

A report by The Lancet Oncology Commission adds that there are around 145 million smokers aged 15 years or older in Latin America. The number of adult smokers in the Latin American countries with the highest tobacco use varies widely, ranging from 35% in Chile and 30% in Bolivia, to 11% in Panama and 11.7% in El Salvador. The highest rates of smokers occur in cities (45% in Santiago, Chile and 39% in Buenos Aires, Argentina) and largely contribute to exposure to second-hand smoke.



In Latin America,
TOBACCO USE contributes
to **26%**
of all
CANCER DEATHS

⁹ The Lancet, Oncology Commission, "Planning cancer control in Latin America and the Caribbean"



TOBACCO USE IN LATIN AMERICA SELECTED COUNTRIES

Latin men and women smoke an almost equal amount. The popularity of tobacco use among adolescents continues to be worrisome. In some countries, the tobacco use rates among young adults 13 - 15 years of age were higher than in adults in 2013.

use is associated with around
16 types of **CANCER**

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in the **WORLD**



Prevalence of adult tobacco use (%)

Tobacco use in young people (age 13–15 years; %)

	Prevalence of adult tobacco use (%)			Tobacco use in young people (age 13–15 years; %)		
	TOTAL	Male	Female	TOTAL	Male	Female
Argentina	27.0%	32.0%	22.0%	28.0%	26.1%	29.7%
Brazil	17.0%	22.0%	13.0%	30.1%	28.7%	30.8%
Chile	35.0%	38.0%	33.0%	35.1%	29.8%	39.8%
Colombia	17.0%	23.8%	11.1%	27.6%	27.0%	27.8%
Costa Rica	16.0%	24.0%	8.0%	14.6%	15.9%	13.1%
Ecuador	22.7%	36.3%	8.2%	28.6%	31.2%	26.1%
Mexico	16.0%	24.0%	8.0%	28.6%	27.8%	28.5%
Panama	11.0%	17.0%	4.0%	8.4%	10.5%	6.5%
Peru	NA	NA	NA	19.4%	21.5%	15.5%
Suriname	NA	38.4%	9.9%	19.2%	20.7%	16.6%
Uruguay	27.0%	31.0%	22.0%	23.2%	21.4%	24.5%
Venezuela	16.9%	20.9%	13.0%	9.4%	11.0%	7.2%
Bolivia	30.0%	42.0%	18.0%	20.8%	24.7%	16.6%
El Salvador	11.7%	21.5%	3.4%	14.6%	18.2%	11.0%
Guatemala	13.0%	22.0%	4.0%	16.6%	19.7%	13.3%
Guyana	16.0%	27.0%	6.0%	20.9%	25.3%	16.0%
Honduras	NA	NA	3.0%	20.4%	22.8%	18.2%
Nicaragua	NA	NA	5.3%	25.1%	30.4%	20.5%
Paraguay	22.0%	30.0%	14.0%	16.7%	30.8%	12.9%

NA=not available.

Source: Planning cancer control in Latin America and the Caribbean



- > A person's risk of developing cancer depends on many things, such as age, genetics, and exposure to risk factors (including some lifestyle factors that can potentially be prevented). The risk factors for cancer are, generally, similar throughout the world.
- > The prevalence of different risk factors varies by region and country. This explains in part why the rates of occurrence of cancer, and the most common types of cancer, also vary by region and country.
- > Globally, one billion adults currently smoke cigarettes¹⁰.
- > Smoking is the most preventable cause of death in the world, and around one third of deaths caused by tobacco are due to cancer (projection 2015).
- > Drinking alcohol is the cause of an estimated 6% of deaths worldwide, of which around one in every 8 is due to cancer (2012). The prevalence of alcohol is higher in Europe and America.
- > The prevalence of excess weight and obesity is increasing, particularly in low- and middle-income countries. Obesity and excess weight are the main causes of death around the world. Unhealthy diets, low in fruits and vegetables and high in salt, are more and more common in poor countries.
- > Cancer-causing infections, like hepatitis and the human papillomavirus (HPV), are responsible for up to 25% of cancer cases in low- and middle-income countries.
- > Since 1975, obesity in the world has almost tripled.
- > In 2016, more than 1.9 billion adults over the age of 18 were overweight. Of these, more than 650 million were obese.
- > More than 340 million children and adolescents between 5 and 19 years of age were overweight or obese in 2016.
- > Obesity is preventable.
- > Alcohol use is responsible for 12% of cancer cases.
- > Advanced-stage diagnoses and unaffordable treatments are common. In 2017, only 26% of low-income countries reported having pathology services generally available to the public. At the same time, more than 90% of high-income countries reported that service treatments are available in comparison with less than 30% in low-income countries.
- > Cancer's economic impact is significant and continues to increase. The total annual economic cost of cancer in 2010 was estimated at approximately 1.16 trillion dollars.¹¹ Other estimates, which add longer-term costs for patients and their families, double that annual overall cost.

¹⁰ <http://www.who.int/es/news-room/fact-sheets/detail/tobacco>

¹¹ www.who.int/mediacentre/factsheets/fs297/en/



SMOKING, NOT EXERCISING ENOUGH, EXCESS ALCOHOL, A BAD DIET, OVERWEIGHT AND OBESITY, AND INFECTIONS EXPLAIN THE HIGH RATIO OF CANCER CASES AROUND THE WORLD.





ACTIONS TO REDUCE THE HEAVY BURDEN OF CANCER

Twenty-three percent of the population of Latin America and the Caribbean are overweight or obese, and this rate is expected to increase to 50% by the year 2030. There is an urgent need to reverse this trend with concrete measures that help people reach and maintain a healthy weight for a lifetime, because managing the disease will greatly depend upon it.

Excess weight and obesity are not only associated with a higher risk of certain types of cancer, as the aforementioned statistics and data show. They are also associated with other serious health problems, as well as a higher risk of recurrence of cancer and a lower chance of survival.

Physical activity (regardless of body weight, diet, and other factors) is associated with a lower risk of some types of cancer. Since physical activity helps prevent excess body weight, it also contributes to reducing

the risk of cancer associated with being overweight and obese.

The American Cancer Society guidelines warn about the risk posed by a sedentary lifestyle, like remaining seated, lying down, and watching TV, and recommend the following activities according to age:



ADULTS

Should do at least 150 minutes of moderate physical activity or 75 minutes of vigorous activity each week (or a combination of both), preferably spread out during the week.



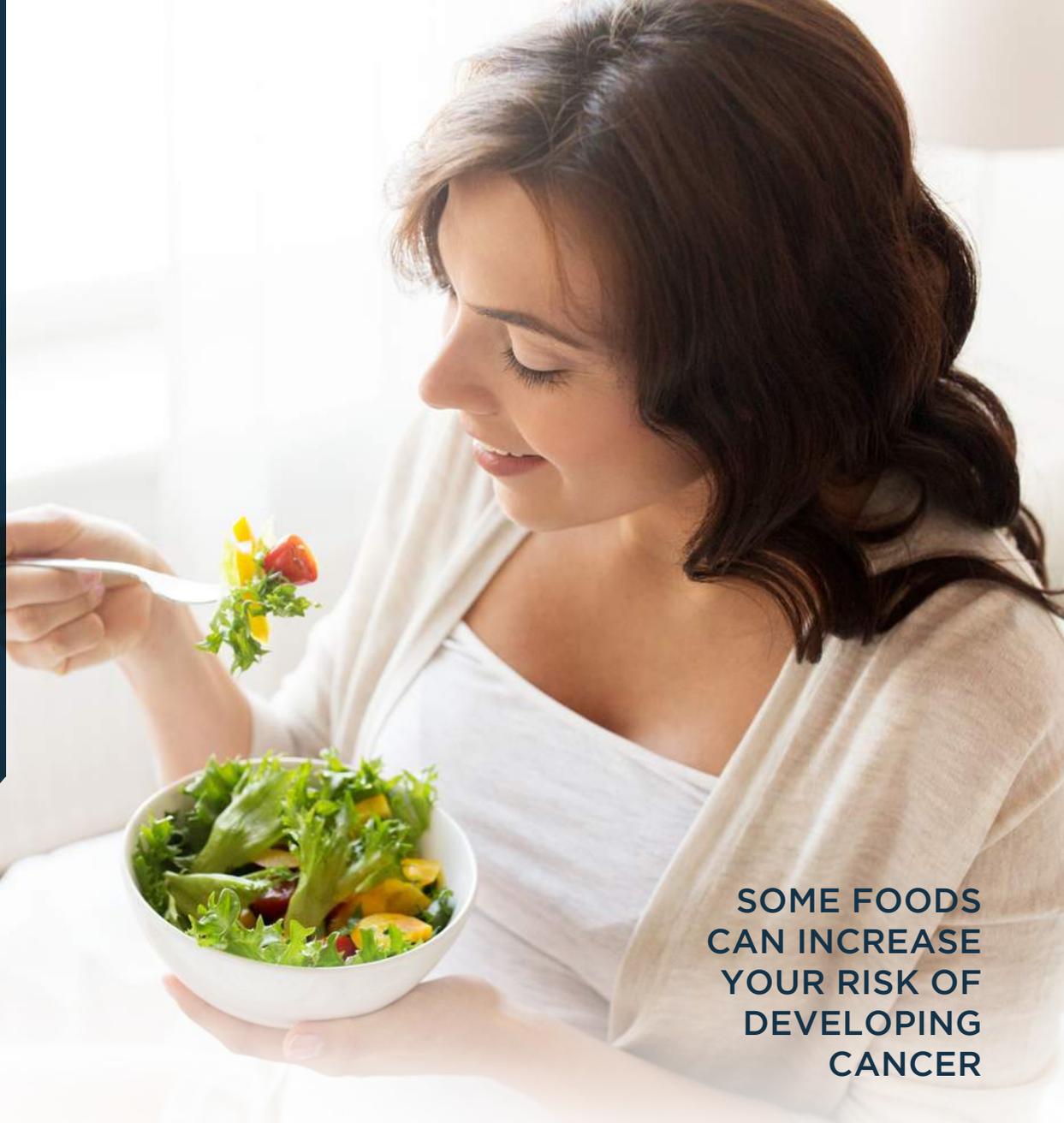
CHILDREN AND ADOLESCENTS

Should do at least 1 hour of moderate exercise every day, with at least 3 days of vigorous activity a week.

A healthy diet and regular physical activity are personal choices that can lessen the burden of cancer significantly.



DIET



SOME FOODS CAN INCREASE YOUR RISK OF DEVELOPING CANCER

The public in general may understandably feel confused when confronted with incessant information about different eating patterns and diets. However, one point on which all medical studies and recommendations for cancer prevention agree is the urgency of improving our diets and reducing our waistlines.

The World Cancer Research Fund International recently published its third expert report on diet and cancer: "Diet, Nutrition, Physical Activity and Cancer: a Global Perspective," which aims to explain why the consumption of some foods can

increase your risk of developing cancer.

A key takeaway of this report is the recommendation that we should eat a diet rich in whole grains, vegetables, fruits, and beans, and limit eating fast foods and other processed foods with high fat, starch, and sugar contents.

The research and findings that link foods with a risk of cancer are not always presented in the necessary context. The following sections touch upon the common concerns about certain foods and attempt to give answers about the real risk of cancer.



ALCOHOL

Does alcohol increase the risk of developing cancer? The American Cancer Society says yes. Alcohol raises the risk of developing mouth, pharynx (throat), larynx (voice box), esophageal, liver, and breast cancer, and probably colon and rectal cancer. People that drink alcohol should limit consumption to no more than two drinks per day for men and one drink per day for women. A drink is defined as 355 ml (12 fluid ounces) of regular beer (5% alcohol), 150 ml (5 fluid ounces) of wine (12% alcohol), or 50 ml (1.5 fluid ounces) of 80 proof distilled spirits (40% alcohol).

The combination of consuming alcoholic drinks and using tobacco increases the risk of developing cancer much more than each agent does on its own. Women that have a higher risk of breast cancer should consider not drinking any type of alcohol.

Processed meat refers to meat that has been treated to preserve it or improve its flavor by salting, curing, fermenting, and smoking. It includes sausages, hot dogs, cold meat, ham, bacon, and some cold cuts.

Experts conclude that every 50 grams of processed meat consumed daily increases the risk of colorectal cancer by 18%. That is the equivalent of 4 strips of bacon or 1 hot dog. For red meat, there was evidence of a greater risk of colorectal, pancreatic, and prostate cancer.

The Guidelines on Nutrition and Physical Activity for Cancer Prevention, by the American Cancer Society, recommend choosing fish, poultry or beans instead of red meat and processed meat¹².

BISPHENOL A (BPA) CONTAINERS



Bisphenol A (BPA) is a chemical used in the production of polycarbonate plastics and epoxy resins. These plastics are found in some food and beverage containers, like water bottles, and epoxy resins are used to cover metal products like food cans and many other items.

BPA enters the body through ingestion, inhalation, and skin contact. Some scientists believe that the chemical could affect metabolism and play a role in diabetes and obesity. According to the Breast Cancer Fund, BPA is a synthetic estrogen that can alter the hormonal system, particularly in babies, especially while they are still in the womb. BPA exposure would increase the risk of breast and prostate cancer, infertility, early puberty and metabolic disorders¹³.

¹² The International Agency for Research on Cancer (IARC)

¹³ <https://www.niehs.nih.gov/health/topics/agents/sya-bpa/index.cfm>

PROCESSED MEATS

The International Agency for Research on Cancer (IARC) of the World Health Organization has classified processed meats as a carcinogen. And it has also classified red meat (beef, pork, lamb and goat) as a probable carcinogen, that is, something that probably causes cancer.





THE GRILL

Grilling has always been synonymous with family reunions or gatherings with friends. Grilled meats are a good source of protein, and their flavor is very appetizing. But behind this attractive “packaging” scientists have discovered that preparing meats this way, especially processed meats like hot dogs or sausages and hamburgers, releases a carcinogen called heterocyclic aromatic amines. When red or processed meat is grilled to the point of blackening, its chemical and molecular structure changes.

In 2007, the World Cancer Research Fund published its expert review and recommended that people avoid eating burned or blackened foods frequently or in great quantities, because epidemiological studies suggest a link between eating lots of cooked, fried, or grilled meats and certain types of cancer.

It is important to avoid grilling directly above the flame. Foods should be far from the heat source, more than 15 cm (6 inches) if possible. More time should be set aside to grill. Cooking on the grill, whether with charcoal, gas or firewood, takes time and a lot of attention.

In addition to the warnings about meat cooking methods, red meat consumption should be limited to no more than three portions (350-500 g cooked weight) per week; and very little, if any, processed meat should be eaten¹⁴.

¹⁴ World Cancer Research Fund International, Third Report, May 2018

¹⁵ <https://www.ncbi.nlm.nih.gov/pubmed/4342>

SMOKED, PICKLED, AND SALTED FOODS



These products generally contain preservatives, like nitrates, to prolong shelf life. The additives used in processed foods can accumulate in your body over time. Eventually, these toxins cause harm on the cellular level and can be a risk for diseases like cancer. When smoked foods are cooked at high temperatures, the nitrates turn into much more dangerous nitrites. (Note: the pickled foods mentioned do not refer to those made at home.)¹⁵

SODAS AND SUGARY DRINKS



Added sugars are still a controversial topic. Consuming them carries a higher risk of a variety of chronic diseases, including obesity, cardiovascular diseases, diabetes and non-alcoholic fatty liver disease (NAFLD), as well as cognitive deterioration and even some cancers.

Sodas have been at the center of the health debate for two decades due to research that links them to cancer, not only because of their high percentage of high fructose corn syrup and coloring but also because they contain chemicals, like aspartame.



FINAL RECOMMENDATIONS



As this report suggests, it is possible that making changes in both eating habits and physical activity could create a metabolic state that lowers your risk of cancer. The following recommendations point toward that goal. They are a personal choice, but it is up to everyone to follow them.

-  1. Maintaining a healthy weight can reduce the risk of several types of cancer, including breast, prostate, lung, colon and kidney cancer.
-  2. Be physically active. Besides helping control weight, physical activity in itself could reduce the risk of breast and colon cancer.
-  3. Eat a diet rich in whole grains, vegetables, fruits, and beans.
-  4. Limit your consumption of fast foods and other processed foods high in fat, starch, or sugars.
-  5. Limit your consumption of red and processed meats.
-  6. Limit your consumption of sodas and sugary drinks.
-  7. Drink alcohol in moderation. The risk of several types of cancer, including breast, colon, lung, kidney and liver, increases with the amount of alcohol consumed and the amount of time that a person has spent drinking regularly in their life.

-  8. Do not take dietary supplements. Manage your nutritional levels only through your diet.
-  9. For mothers, breastfeed your baby, if possible.
-  10. Do not smoke.
-  11. Avoid sun exposure when rays are strongest and stay in the shade as much as possible. Do not skip sunblock. Avoid tanning beds and lamps because they are as harmful as natural sunlight.
-  12. Vaccinate yourself against the Human Papillomavirus (HPV) and hepatitis B, especially children and teenagers.
-  13. Make medical appointments and have check-ups regularly.



EPILOGUE



CANCER'S IMPACT ON HEALTH INSURANCE IN **LATIN AMERICA**

The alarming increase in the frequency of new cancer cases in Latin America as well as the cost of related treatments in the region is significantly impacting the cost of medical insurance and the demand for resources from the countries that finance the public health sector. The costs are largely driven by new technologies, particularly biological therapy or specialized chemotherapy drugs.

- Prices for cancer treatment drugs have doubled in the last decade, from an average of \$5,000 a month to more than \$10,000. (Journal of the National Cancer Institute)
- Eleven of the 12 anti-cancer drugs approved by the FDA to combat cancer in 2012 cost more than \$100,000 per year. (Journal of the National Cancer Institute)

Every day more effective treatments to reduce the death rate of certain types of cancer appear on the market, but their cost continues to grow. Some new treatments have ended up costing more than a million dollars. In the end, all of these advances result in more expensive medical insurance premiums for the insured population and a considerable challenge for public sectors with limited budgets.

Nevertheless, there is a real opportunity to change this alarming trend if we consider that

a large number of different types of cancer are preventable. The power to reduce our risk of cancer by as much as 50% is in our hands.

WE ONLY HAVE TO CHANGE OUR HABITS.



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