

If we are what we ate text by slide

1. We are what we eat. We've all heard this before. So that implies that we are what we ate yesterday, the day before, and all the days leading up to today. And if that's true
2. Should we be eating something different today?
3. Hello my name is Salene Pyke, "Hi I'm Howard" We are so excited to be here today, sharing this presentation with you. We think the message and the information we are presenting is especially relevant in light of the new Canadian Food Guide released on Tuesday. We hope you enjoy the next hour. In case you need to leave early, we want to thank you for joining us. We also encourage you to send your feedback to info@flaxflour.com
4. Valley Flaxflour Ltd has been promoting the use of flax in health care facilities for over 20 years. We currently have an estimated daily consumer base over 6,000 people. Many of you have helped us achieved this success. Thank you for working with us to provide your clients and families the benefits of flax.
5. Today we will be taking a brief, scary look at the Current State of Health & Health Care Costs, discuss how a few Functional Foods can have a major impact on our health, Flax as a functional food, followed by a few minutes for Questions
6.
 - a. 50% of Canadian men and women in the 55 – 64 year age bracket will have developed one or more types of Cardio-vascular disease.
 - b. 29% of all deaths in Canada are from heart disease.
 - c. 32% of men and 28% of women in the 55 to 64 year age bracket will develop high blood pressure.
 - d. Much of the burden caused by cardiovascular disease is preventable. The major modifiable risk factors include tobacco smoking, high blood pressure, high blood cholesterol, insufficient physical activity, overweight and obesity, diabetes, poor nutrition, and excessive intake of alcohol. Other risk factors that are beyond our control include age, gender, family history and ethnicity.
 - e. Finally, 49% of men and 45% of women will develop some form of cancer in their lifetime.
7.
 - a. The current annual cost of health care in Canada is about \$242 billion; Prescribed drug expenditures account for over \$29 billion annually
 - b. Every person in Canada, that's over 37 million people, contributes about \$6,600 every year to help fund our health care system.
 - c. Every tax payer in Canada contributes an average of \$13,200 every year.
 - d. That does not include lost work time, individual travel costs and so many other illness related expenses.
8. How we arrived at this state, with our food production, processing, and consumption patterns, is extremely complex.
 - a. Income - Over the next three to four decades, global per capita income is projected to rise at a rate of over 2 per cent per annum, with developing countries that are starting from a low base expected to rise at even higher rates ([Du et al. 2004](#)). Their economies are expected to

- expand at twice the rate of those in industrial countries. Rising income means higher fat diets. In Mexico and Brazil, for example, where overweight used to be a sign of wealth, it now more often reflects poverty. Increased incomes or lower prices have led to the increased consumption of animal-based foods and processed foods. While those that are well educated can choose to adopt a healthy lifestyle, the poor have fewer food choices and more limited access to nutritional education.
- b. urbanization - Essentially, almost all of the population growth over the coming decades will be urban. In 1900, just 10 per cent of the world population inhabited cities. Today, that figure is over 50 per cent.
 - c. Trade liberalization - Trade liberalization is another important factor that has led to changes in food intake. Modifications in food supply have also altered radically the food environment and the choices that consumers may make. Reductions in the price of unhealthy foods, typically those that are calorie-rich, nutrient-poor and high in saturated fats and salt, compared with healthy foods, increased desirability and availability of unhealthy foods, worsening asymmetry between consumers and suppliers of foodstuffs, and growing urbanization and changes in lifestyle are all possible means by which trade liberalization can affect food consumption, especially among poor populations ([Thow 2009](#)). Trade liberalization can affect the availability of certain foods by removal of barriers to foreign investment in food distribution. It can also enable foreign investment in other types of food retail; multinational fast-food outlets have made substantial investments in middle-income countries. Availability of processed food has risen in developing countries after foreign direct investment by multinational food companies. Thus, changes in trade policies have facilitated the rising availability and consumption of meat, dairy products and processed foods ([Thow & Hawkes 2009](#)). These policies of trade liberalization therefore have implications for health by virtue of being a factor contributing to the 'nutrition transition' that is associated with rising rates of obesity and chronic diseases such as cardiovascular disease and cancer ([Thow & Hawkes 2009](#)).
 - d. Transnational food corporations (TFCs) (franchises and manufacturers) such as KFC, McDonalds, Kraft and Nestlé are all drivers of the fast-food market, processed foods and Western lifestyle that have become so widespread in developing countries ([Hawkes 2005](#)). Along with an increased consumption of modern processed foods, developing countries are also creating processed versions of traditional dishes. Consequently, with the globalization of food systems, traditional diets in developing countries are being transformed as more meals are now available in the fast-food calorie-rich pattern of developed countries, and these are increasingly abundant and cheap through advances in food processing and modern technology.
 - e. Retailing - In a single globalizing decade from 1990 to 2000 and just into the liberalization of markets, changes have taken place in the retailing sector in Latin America that took North American retailing 50 years to accomplish ([Reardon & Swinnen 2004](#)).
 - f. Food industry marketing - Recent and radical changes in the food marketing and distribution system (through their globalization) have had a profound effect on food consumption patterns. An example of how marketing, as well as government subsidies can change patterns and trends of consumption, can be seen from beverage consumption in the USA, for example, which has changed dramatically over the past 50 years. In 1945, Americans

drank more than four times more milk than carbonated soft drinks; 50 years later, they were consuming nearly two and a half times more carbonated beverages than milk. According to [Willett \(2002\)](#), exposure to TV advertising is perhaps the single largest factor responsible for the epidemic of obesity among children in the USA.

- g. Consumer attitudes and behaviour - Consumer health awareness continues to grow with the increasing availability of health information going hand in hand with the ageing of populations and increased risk for lifestyle diseases. Selection of foods that are acceptable to an individual increasingly takes place in a context where availability is substantially influenced by the food industry and food retailers.
 - h. Many of these social and economic changes have resulted in ...
9. Cartoon – and so we have arrived at this state...
10. What can you do to reduce risk, slow down disease progression, and enhance risk management?

The foods you select can have a major impact on your disease risk management.

11. How major? Well,
- a. for example, your risk for contracting cardiovascular disease or diabetes can be reduced by 40 – 50%
 - b. your risk for contracting all cancers can be reduced by 35 – 50% and
 - c. your risk for contracting osteoporosis can be reduced by up to 20%

just through your selection of foods alone!

12. Let's take a couple minutes to look at a few specific foods and why they should be in your grocery basket; these foods are called functional foods

- 13.
- a. Functional foods may be defined as foods and food components that provide a health benefit beyond basic nutrition (which are qualities necessary for normal growth and development) and include conventional foods, fortified, enriched or enhanced foods and dietary supplements (Clydesdale [2004a,b](#)).
 - b. Functional food consumption is increasing in almost all industrialized countries. Interest in functional foods and drinks has been fuelled by a desire for convenience, as well as health. Busier lifestyles are making it harder to meet nutritional requirements using traditional food and drinks.
 - c. We expect that the development of functional foods will continue to grow in industrialized countries, fuelled by increasing life expectancy, higher prevalence of non-communicable diseases, increasing healthcare costs and the acceptance of the strong link between diet and health.

There are many foods in the functional food category. Here are several of them, with some commentary...

14. OATS - Health Benefits

- a. **Oats Lower Cholesterol** - Oats, oat bran, and oatmeal contain a specific type of fiber known as *beta-glucan*. Since 1963, study after study has proven the beneficial effects of this special fiber on cholesterol levels.

- b. **Unique Oat Antioxidants Reduce Risk of Cardiovascular Disease** - Antioxidant compounds unique to oats help prevent free radicals from damaging LDL cholesterol, thus reducing the risk of cardiovascular disease, suggests a study conducted at Tufts University and published in *The Journal of Nutrition*.
- c. **Oats May Enhance Immune Response to Infection** - In laboratory studies reported in *Surgery*, beta-glucan significantly enhanced the human immune system's response to bacterial infection. Beta-glucan not only helps neutrophils navigate to the site of an infection more quickly, it also enhances their ability to eliminate the bacteria they find there.
- d. **Oats May also help Stabilize Blood Sugar**
- e. **Substantially Lower Risk for Type 2 Diabetes**
- f. **Protect against Breast Cancer and, among other things**
- g. **Protect against Childhood Asthma**
- h. **Oats are also a Well-tolerated Wheat Alternative for most people with Celiac Disease**

The cruciferous family includes such vegetables as

Arugula, Bok choy, Broccoli, Brussels sprouts, Cabbage, Cauliflower, Chinese cabbage, Collard greens, Daikon radish, Horseradish, Kale, Kohlrabi, Land cress, Mustard greens, Radish, Rutabaga, Shepherd's purse, Turnip, Watercress

In terms of conventional nutrients (vitamins, minerals, proteins, carbs, and fats), there is no other vegetable group that is as high in vitamin A carotenoids, vitamin C, folic acid, and fiber as the cruciferous vegetables. As a group, the cruciferous vegetables are simply superstars in these conventional nutrient areas.

The antioxidant richness of cruciferous vegetables has been explicitly mentioned in several recent studies as one of the strong contributors to the risk-lowering impact of cruciferous vegetables on numerous forms of cancer.

One hundred calories' worth of cruciferous vegetables (about 5-6% of a daily diet) provides about 25-40% of your daily fiber requirement! That fact shows what an incredible bargain cruciferous vegetable are when it comes to fiber.

Cruciferous vegetables can contribute a surprising amount of protein to the diet — over 25% of the Daily Value in 3 cups — and at a very low calorie cost.

Understanding Differences between Raw and Cooked Cruciferous Vegetables

Recent research shows a definite dietary place for cruciferous vegetables in both raw and cooked form. When cruciferous vegetables like broccoli are freshly picked (for example, within the previous 48 hours), their enzymes are much more likely to remain active. Also, when consumed in fresh, raw, uncooked form, nutrients from the cruciferous vegetables that we eat are more likely to be absorbed in the upper digestive tract, transported to the liver, and made available to other tissues in the body that might benefit from their presence.

When cruciferous vegetables are consumed in cooked form, and especially if they have not been allowed to sit chopped for several minutes prior to cooking, there is unlikely to be much enzyme activity and the digestive products of the cruciferous vegetables are more likely to pass through the upper digestive tract unabsorbed and continue down into the lower digestive tract (colon).

Legumes - Beans, also known as legumes, should be included in all kinds of diet, as they are loaded with nutrients. In fact, legumes are also referred to as “a poor person’s meat”, though in truth, they are actually much healthier than most varieties of meat in several ways. Being very high in protein and one of the best sources of soluble fiber, legumes are a staple food in cuisines from all over the world. Moreover, there are several different varieties of legumes, which are usually classified as peas, beans or lentils. Some of the most commonly consumed legumes include soy bean, pinto beans, lima beans, red beans, black eyed peas, chickpeas (or garbanzo beans), dhal, moong and so on.

There are several different health benefits associated with the regular consumption of legumes.

Some of them:

Reduction of cholesterol levels in the blood

Regulating the levels of blood glucose for diabetics

Preventing cancer and reducing its risks

Lowering blood pressure

Improving the function of the colon

[Curing constipation](#), piles and other digestive related problems

Studies show that women who eat [legumes](#) like soy bean regularly, are less likely to develop breast cancer in comparison to others. Moreover, most legume varieties are high in iron. They boost the iron stores in women who are menstruating & may be at a risk for iron deficiency.

15. Before we go any further ...Over the past 20 years, there has been a tremendous amount of research done on the potential benefits of flax. I highly recommend these 2 sites for those who would like to read into the subject. Flaxcouncil.ca is a valuable source of consumer-friendly information. flaxresearch.com takes you into the flax research articles.

16. Research has been carried out in many areas of human nutrition, including bone health, cancer, heart disease, cognition, diabetes, hypertension, immunity, inflammation, liver, menopause, renal disease, weight management and others

17. **FLAX SEEDS**

Flax seeds must be milled or cracked in order to be fully digested by humans. Here you see our product after being cold mill processed and sifted to remove any large bits of seed or husk which would be contraindicated for people with diverticulosis.

Milled flax is an excellent source of nutrients

18. Flaxseeds are nutritionally unique and offer us health benefits not found across the board within the seeds food group. The nutritional uniqueness of flaxseeds features three nutrients, and all three play a key role in the outstanding health benefits of this food.

These are the omega-3 fatty acids, lignans, and soluble fibre.

19. Flax is an exceptional source of basic and functional nutrients.

Flax seeds are a rich source of protein, fat and dietary fibre. They contain approximately:

21%	protein
41%	fat
28%	dietary fibre
4%	ash
6%	other carbohydrates

a. PROTEIN

Flax seeds contain high quality protein consisting of albumins and globulins; these proteins have an amino acid pattern similar to soybean protein, considered to be one of the most nutritious of the plant proteins. As a result of the similarity between the flax and soy proteins, the cardiovascular benefits reported with soy are also expected to be associated with flax.

b. FATS

Every 100 g of flax seeds contain approximately 41 g of oil. This oil consists of:

9%	saturated fat
18%	monounsaturated fat
73%	polyunsaturated fat
	57% alpha-linolenic acid, an omega-3 fatty acid
	16% linoleic acid, an omega-6 fatty acid.

Flax is unique in its high content of alpha-linolenic acid (ALA), an essential omega-3 fatty acid.

ALA is the precursor of the long chain omega-3 fatty acids eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). These long chain fatty acids have been found to lower the risk for coronary heart disease and stroke.

c. FIBRE

flax seeds contain about 27 g of fibre per 100 g. Approximate 1/3 of this is soluble fibre.

soluble fibre, consisting primarily of mucilage, helps to lower blood cholesterol, regulate blood glucose, as well as heal and soothe the digestive tract.

non-soluble fibre helps to soften and bulk stools

LIGNANS

flax seeds are also one of the richest sources of **lignans, phytoestrogens** with numerous biological properties, including *antimitotic, antifungal, and antioxidant activities*.

CARBOHYDRATE

Flax is a low carbohydrate source of fibre. It is an ideal food for diabetics and people choosing a low carbohydrate diet, such as the popular Keto diet.

20. There are many significant health benefits available from flaxseed. These include:

a. Bowel care

Whole flaxseeds have been shown to be a very effective laxative, and they have been used for this purpose since ancient Greece. However, research and case studies have shown that including milled flax in a regular diet have the effect of softening hard stools and bulking loose stool which can help control diarrhea. These studies have shown a reduction of 60 to 70 percent in the need for bowel care medications.

b. Blood sugar control

Flaxflour is a very low carbohydrate source of high-quality protein and fiber. These nutrients can help manage blood sugar levels by slowing the breakdown of starch and absorption of sugar. Preliminary research has indicated that flax may also delay the onset of both types 1 and 2 diabetes.

c. Autoimmune Disease

ALA and lignans have a positive influence on the immune system. These substances can help manage pain by reducing inflammation caused by disease. Both the omega-3 fatty acids and lignans in flax modulate the immune response and may play a beneficial role in the clinical management of such autoimmune diseases as rheumatoid arthritis, psoriasis, lupus and multiple sclerosis.

d. Cardiovascular Disease

Flaxseed is a rich plant source of omega-3 (alpha-linolenic, ALA) fatty acids. A diet high in ALA helps reduce the risk of coronary artery disease and stroke by:
decreasing triglycerides, LDL cholesterol, and blood pressure, increasing HDL cholesterol, and reducing platelet activity. ALA can also help control cardiac arrhythmia.
Lignans in flax have antioxidant properties that help prevent blood vessel damage. As well, the soluble and non-soluble fiber can have a positive effect on blood lipids.

21. **a. Cancer risk reduction**

Flax lignans have antioxidant properties that can help prevent tissue damage which may result in cancer. Lignans have been shown to reduce the risk of certain types of hormone-sensitive cancer, such as breast, endometrium and prostate. As well, the omega-3 fatty acids in flax have been shown to protect against certain types of solid tumor cancers involving the colon, breast, prostate, and pancreas.

b. Pre-biotic for good Gastrointestinal health

Flax is a pre-biotic, which means that it is an effective food source for the pro-biotics which are currently being studied for the health benefits they are demonstrating. Adding flax to a bowl of probiotic yogurt is a great way to start your day.

c. Celiac Disease

Flaxflour is gluten free and can easily be incorporated into the diet as an additional source of high-quality protein and fibre. Checkout our website for gluten free recipes.

d.PMS & Menopause

Phytoestrogens in flax structurally resemble estrogen and are shown to have weak estrogenic activity that appear to help regulate the timing, length, and severity of menstrual periods and may help reduce the night sweats and hot flashes associated with menopause.

22. Flax can help reduce medication use and cost by
 - a. eliminating or reducing the need for bowel care medications including stool softeners and bulking agents
 - b. working with pro-biotic bacteria to improve the gut micro biome and create a healthier GI environment
 - c. lowering serum LDL cholesterol which can eliminate the need for cholesterol lowering medication
 - d. lowering blood pressure which can eliminate the need for blood pressure controlling medication

23. Summary slide- We have within our grasp the capacity to take charge of our health care. We can live a healthier life, longer than any generation before us. The formula is not complex, but it is certainly challenging. Eat well, exercise, support those within our society living in poverty, stop smoking, and reduce the consumption of alcohol.

24. Please contact us if you have any comments or questions which have not been covered today. There is a selection of resources on our website. If you don't find what you are looking for, get in touch.

25. If your food service distributor does not carry our product, please contact us directly. We will guarantee competitive pricing anywhere in Canada.

26. We hope you find the information we have shared with you to be useful. Thank you for taking time out of your busy day to attend. Now we open the floor for questions.