# One Disease – One solution: How to add years to your life and life to your years

Notes of a presentation given by Dr. John Mauremootoo of [New Paradigm Health](#). PowerPoint presentation available for download from [SlideShare](#).

This presentation introduces a framework for adding years to our lives and lives to our years. It outlines why we are living longer but spending more of these additional years in chronic ill health, and the power of nutrition to prevent, arrest and reverse most chronic diseases as part of an integrated approach that addresses all seven pillars of a healthy lifestyle: Eating Naturally; Hydrating Properly; Sleeping Soundly; Breathing Effectively; Managing Psycho-Social Health; Moving Frequently; and, Creating a healthy environment.

## Slide 001: Title Slide

One Disease – One solution: How to add years to your life and life to your years

Dr. John Mauremootoo

www.newparadigmhealth.co.uk

The Science of Weight Loss:

*New Paradigm Health is a health consultancy which works with individuals and groups to identify the root cause of chronic disease and co-create an individual lifestyle programme to optimise health. This could mean prevention, halting or limiting progression, or disease reversal depending on specific circumstances.*

## Slide 002: Please Note

The information presented here is based on professional training, personal experience and interpretation of training, personal experience and interpretation of information from medical journals, articles, or books and information from medical journals, articles, or books and is for informational and educational purposes only.

It is not an attempt to diagnose or prescribe. People are advised to contact their primary or specialist health advised to contact their primary or specialist health professional before making medical, nutritional, lifestyle professional before making medical, nutritional, lifestyle or any other health or any other health-related changes.

## Slide 003: Chronic Disease Affects us All

Show of hands: Do you or your nearest and dearest have any of these or any other chronic health conditions?

- Heart and circulatory disease
- Cancer
- Respiratory disease
- Dementia
- Liver disease

- Arthritis
- Autoimmune disease
- Neurological disorder
- Mental illness
- Chronic fatigue

- Diabetes
- Chronic pain
- Chronic kidney disease
- Arthritis

## Slide 004: The First Question

"Before you heal someone, ask him if he's willing to give up the things that made him sick." ~ Hippocrates (c. 460 – c. 370 BC): Greek physician, often referred to as the "Father of Medicine

*This is a question that we pose to clients from the get-go; which leads to the second question: what did make me sick?*

*This is why Julie and I started New Paradigm Health – to help people explore what made them sick and help them to address these factors.*

## Slide 006: The Body/Mind is one

"The greatest mistake that physicians make is that they attempt to cure the body without attempting to cure the mind; yet the mind and the body are one and should not be treated separately." ~ Plato (428/427 or 424/423– 348/347 BC)

*I love this quote from Plato, which is more than ever apposite nowadays when many people treat their body as a nothing but a means of carrying their heads from place to place.*

## Slide 007: My Journey Where I have come from and where I am now

- Cambridge University Cambridge University - biology degree
- Southampton University - biology PhD
- University lecturer in biology – Southampton, Bournemouth, London, Mauritius
- Consultant in applied biology in 34 countries,
- Certified Naturopath
- Certified Functional Medicine Practitioner

*Here's a quick meander through my own personal journey in terms of my education and my development as a healthcare practitioner. It began about forty years ago when I began my studies in biology at Cambridge University. I went on to do a PhD in applied biology at the University of Southampton and, after completing various postdoctoral assignments, I became University lecturer in biology in universities in Southampton, Bournemouth, London and Mauritius. Over the years I have undertaken consultancies in applied biology in 34 countries.*

*Over this time I have become increasingly interested in human health and the root causes of chronic disease. This led me to become a certified naturopath - essentially somebody who uses natural means to prevent, arrest, and reverse diseases of all kinds, and a certified functional medicine practitioner. Functional medicine can be thought of as root cause medicine. It takes a forensic approach to tease out the root causes of the malaise rather than just simple treating the symptoms as conventional medicine tends to do.*

*I have shared this journey with Julie - my wife, business partner, and soul mate. Julie, a former neonatal nurse and midwife, has undergone considerable professional development in diverse health-related fields including healing, Emotional Freedom Techniques (EFT or tapping) and as a certified health coach.*

## Slide 008: 1988 - Me in my triathlon days

*I was very fit, but I was storing up some long term health problems. I was dependent on vast quantities of simple carbohydrates (the equivalent of six king size mars bars a day) eating the equivalent of 200 kg of sugar per year (based on an estimate of 60 g of sugar in a Mars Bar = 11 teaspoons of sugar). By the time I was in my late 40s I had severe gum disease which might not in itself sound too serious, but gum disease is Highly correlated with many other chronic such as cardiovascular disease and cancer. Fortunately in my early 50s I discovered a whole food plant rich diet which allowed me to get on top of the gum disease.*

## Slide 009: Clare, my late wife

*Clare with my children Jack and Ben in 2004. The boys have a 50% chance of inheriting the gene that predisposes them to ALS/MND.*

*A much more poignant reminder of the fundamental importance of good health was my late wife Clare's death from ALS  (a form of Motor Neurone Disease). Over the years, Clare had developed some autoimmune which, with the benefit of hindsight, may well have been warning signs. In 2006 she developed symptoms – some stumbling, and occasional slurring of her speech. The symptoms rapidly worsened and she was diagnosed with MND in September of the same year. Clare passed away on 19 February 2007 a few months shy of her fortieth birthday.*

*My initial reaction to Clare's diagnosis was to accept all chronic disease as a manifestation of bad genes and bad luck. Clare had a genetic predisposition to ALS but most 'chronic disease genes' are only expressed when under certain circumstances - "genes load the gun, but the environment pulls the trigger." In the years following Clare's death I have immersed myself in the scientific literature on chronic diseases and have become convinced that most incidences can be prevented, arrested and in many cases reversed by addressing the root causes – what you are putting into your body and what you are putting your body into..*

## Slide 010: Clare, my late wife

*My late wife Clare on Valentine's day 2007 shortly before she died of Motor Neurone Disease (aka ALS or Lou Gehrig's disease).*

## Slides 011: APOE4

*Another major motivation behind my health story has been the fate of my mother who now suffers from advanced Alzheimer's disease.*

*I am heterozygous for APOE4 (one copy of the APOE4 4 variant) so theoretically have a coin's toss chance of contracting AD.*

*APOE4 helps bind, transport and break down fats and there is a lot that can be done to minimise the deleterious effects of this genetic polymorphism* (Bredesen 2014, Liu et al. 2013). *Measures include:*

- *Minimising inflammation – anti-inflammatory diet*
- *Minimising infections*
- *Minimising toxins.*

## Slides 012: Chronic Disease

Lifespan and Healthspan: *Nothing Fails Like Success.*

## Slide 013: Lifespan

*Life expectancy at birth: England and Wales, 1841 – 2012 (Raleigh 2019).*

*As the graph indicates, increases in lifespan in the developed world since industrialisation, as exemplified here by England and Wales, have been spectacular with average life expectancy in the mid-19<sup>th</sup> century at just over 40 years increasing to about 80 years of age in the 2000s. A number of interlinked lifestyle changes have contributed to this success story. However every silver lining has a cloud and because a little of something is good, it does not mean more is necessarily better. Many of the processes that have ushered in these longevity gains have had their flip sides.*

*Sanitation has sometimes been overdone with practices such as obsessive use of anti-bacterial cleaning products contributing to a depletion in beneficial microbes.*

*Increased food security has led to a dramatic reduction in deficiency diseases such as scurvy (caused by lack of vitamin C), rickets (caused by lack of D), Pellagra (caused by lack of niacin - vitamin B3) and beriberi (caused by lack of thiamine - vitamin B1) But diseases of insufficiency have been replaced by diseases of over-abundance.*

*Antibiotics have been a medical game changer with previously fatal diseases rendered harmless and many surgical procedures transformed from life or death gambles to routine procedures. But antibiotics are being over-used for humans and livestock leading to a crisis of antibiotic resistance and the depletion of the body's beneficial microbes with detrimental impacts.*

*Pharmaceutical drugs have saved and prolonged countless lives but are being used as enablers to allow people to continue with their unhealthy lifestyles while avoiding addressing the root causes of disease.*

## Slide 014: Why do women live longer?

Source: The Humor League.

*There are many hypotheses. This picture illustrates one possibility - women are more motivated by love and connection while men are more concerned competition and aggression.*

## Slide 015: Healthspan

People are living longer lives in the industrialised world but are living many more years in poor health – i.e. life span is increasing but healthspan is increasing proportionally more. "Over the next 20 years there will be an expansion of morbidity, particularly complex multi-morbidity. Life expectancy gains will be spent mostly with 4+ diseases" (Kingston et al. 2018).

*Conclusions: our findings indicate that over the next 20 years there will be an expansion of morbidity, particularly complex multi-morbidity (4+ diseases). Life expectancy gains (men 3.6 years, women: 2.9 years) will be spent mostly with 4+ diseases (men: 2.4 years, 65.9%; women: 2.5 years, 85.2%), resulting from increased prevalence of rather than longer survival with multi-morbidity.*

## Slide 016: The Chronic Disease Guarantee?

It has got to a situation where nearly everybody is practically certain to be suffering from one or more chronic disease in their later years - this is the *chronic disease guarantee* that many people assumed is an inevitable part of aging.

## Slide 017: The Chronic Disease Guarantee?

It doesn't have to be this way

## Slide 018: The Chronic Disease Guarantee?

Most chronic conditions are preventable, treatable and even reversible through lifestyle change.

## Slide 019: What is the cause of chronic disease?

## Slide 020: STRESS

Brainstorm: What do you think of when you hear the word stress?

There are many kinds of stress, but they all boil down to is physical, chemical, or psychosocial stimuli that are present in too high a dose, too lower dose, or are stimulate that are too new for the body-mind to absorb.

## Slide 021: STRESS: The stress bucket

***The toxic bucket analogy***

*The body is constantly subjected to stresses, for example, air and water pollutants, potentially stressful events, processed foods, electromagnetic radiation. But the body has mechanisms to deal with the stresses/toxins. The capacity of the body to deal with stresses/toxins can be compared with a bucket. As long as there is capacity in the bucket the body does not become diseased but if there is more stress/toxicity than the bucket can hold a disease will emerge. A disease emerges once a threshold is crossed. This threshold can be clear-cut or debatable.*

## Slides 022-024: A disease state occurs when a threshold is crossed

## Slide 025: Chronic disease symptoms manifest themselves when stress exceeds the disease threshold

## Slide 026: Chronic disease = an overflowing stress bucket

## Slide 027: The size of the bucket can change

*Most people's ability to absorb and detoxify stress is low in early life, increases until it reaches a peak in young adult hood, after which it gradually deteriorates with age.*

*Jeffrey Moss: We see people who say I used to be able to tolerate, name whatever it is, my soap, my laundry detergent, my perfume, and all of a sudden, I'm 50 years old I can't tolerate it anymore. Was there more toxins? They are putting on the same amount of cologne as they have been doing for 30 years, same soap. Did the amount of toxicity go up, or did the ability to detoxify go down? That's the reality, that's the research reality of chronically ill patients who seem to be sensitive to toxins. Yes, certainly we'll see people who are exceptions to that who had an increase in exposure. But I think if you really check you'll find there hasn't been that big a change in their life in the stresses of their life, I should say the stresses of their life in terms of toxins, what did change is stresses in other aspects of their life, more worry, lack of exercise, poor diet, and because of that they are now more inflamed and they become more toxic. Again not because of more toxins, but because of reduced ability to detoxify. Key point, if you can understand that, detoxification becomes easier, more predictable, helping people becomes easier and more predictable.*

## Slides 028-030: A lowering of the disease threshold

*Slides showing a diminishing disease threshold with stress levels remaining the same, resulting in the manifestation of chronic disease.*

## Slide 031: Take heed of the canaries

*The simplified model presented above might convey the impression that diseases suddenly appear out of nowhere once the threshold is exceeded. However, it is more likely that there will be early warning signs as a disease threshold is being approached, for example full blown diabetes is likely to be preceded by pre-diabetes.*

## Slide 032: RESILIENCE

*The picture is meant to convey the resilience of a forest. The shrub in the foreground has kept its leaves despite being battered by a hurricane, while the surrounding trees and shrubs have been defoliated. However those defoliated trees are not dead and new leaves will reappear.*

## Slide 033: Resilience

The ability to handle stress of all kinds. Balance between:

- The size of the stress bucket
- The total stress load or body burden

## Slide 034: Chronic disease = an overflowing stress bucket

## Slide 035: The Solution to Chronic disease = Maximising Resilience

## Slide 036: How to maximise resilience

## Slide 037: Maximising resilience by addressing the seven pillars of a healthy lifestyle

1. Nutrition: Eat Naturally
2. Hydration: Hydrate properly
3. Sleeping: Sleep soundly
4. Breathing: Breathe effectively
5. Psycho-social health: Manage psycho-social health
6. Movement: Move frequently
7. A healthy environment: Create a healthy environment.

## Slide 038: Maximising Resilience

"If we could give every individual the right amount of nourishment and exercise, not too little and not too much, we would have found the safest way to health." ~ Hippocrates

## Slide 039: Nutrition

1. Eat Naturally.

*We put about a ton of food and drink into our body every year – how can this not affect all aspects of our life?.*

## Slide 040: Leading UK disease risk factors

14 of the 20 main risk factors are diet-related (67% of the risk) (Murray et al. 2013)

This rises to over 80% if you exclude tobacco smoking and second-hand smoke

**Alcohol:** The negative percentage for alcohol is the protective effect of mild alcohol use on coronary heart disease and diabetes.

**Other factors are also related to diet.** For example, **low back pain** is linked to poor circulation through poor oxygenation of joints and muscles, and poor elimination of waste products, pollutants – our ability to detox is related to the quality of the food we eat.

**Physical activity** is likely to be more difficult because of **peripheral vascular disease** caused by diet and diet-related obesity

## Slide 041: Britain's BAD Diet

*BAD = The British Average Diet*

*Not Boris's Atrocious Diet*

*Leading to somebody who is out of shape, has poor recall and unearned self-confidence*

## Slide 042: Eatwell Guide

*Our official diet guidance comes from the Eatwell Guide (Public Health England 2018), and although not perfect, if people were eating according to the official guidance, they would be much healthier than they currently are.*

*Below is a summary of the guidance provided:*

*Fruit & Vegetables: Fruit and veg should make up just over a third of the food we eat each day. Aim to eat at least five portions of a variety of fruit and veg each day. If you count how many portions you're having, it might help you increase the amount and variety of fruit and veg you eat. Choose from fresh, frozen, canned, dried or juiced. A portion is 80g or any of these: 1 apple, banana, pear, orange or other similar-size fruit, 3 heaped tablespoons of vegetables, a dessert bowl of salad, 30g of dried fruit (which should be kept to mealtimes) or a 150ml glass of fruit juice or smoothie (counts as a maximum of one portion a day).*

*Starchy carbohydrates: Starchy food is a really important part of a healthy diet and should make up just over a third of the food we eat. Choose higher-fibre, wholegrain varieties when you can by purchasing whole wheat pasta, brown rice, or simply leaving the skins on potatoes.*

*Dairy and alternatives: Try to have some milk and dairy food (or dairy alternatives) – such as cheese, yoghurt and fromage frais. These are good sources of protein and vitamins, and they're also an important source of calcium, which helps to keep our bones strong. Some dairy food can be high in fat and saturated fat, but there are plenty of lower-fat options to choose from.*

*Beans, pulses, fish, eggs, meat and other proteins: These foods are sources of protein, vitamins and minerals, so it is important to eat some foods from this group. Beans, peas and lentils (which are all types of pulses) are good alternatives to meat because they're naturally very low in fat, and they're high in fibre, protein, vitamins and minerals. Pulses, or legumes as they are sometimes called, are edible seeds that grow in pods and include foods like lentils, chickpeas, beans and peas. Other vegetable-based sources of protein include tofu, bean curd and mycoprotein; all of which are widely available in most retailers.*

## Slide 043: Britain's BAD Diet

Comparison of English diet with guidelines

- Energy intake
- 5-A-Day recommendation
- Ultra-processed food

Sources: Bates et al. 2016, SACN 2012)

Also see conflicts of interest: Scientific Advisory Committee on Nutrition: register of declared interests July 2019: SACN. 2018. Scientific Advisory Committee on Nutrition Annual Report. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/780642/SACN_annual_report_2018.pdf.

## Slide 044: Energy Intake (Calories)

*Both men and women are consuming a surplus of calories during all age groups and weight increases steadily with men having a greater rate of obesity than women.*

*Gaining weight is not a normal function of aging*

*Overweight: BM1 greater than 25*

*Obese: BM1 greater than 30*

*These figures don't mean that the others are healthy. Many low weight individuals are very unhealthy – alcoholics, drug addicts, people with bowel disease and those with cancer for example.*

## Slide 045: Fruit and vegetable recommendation

## Slide 046: What percentage of 11-18 year olds meet the 5-A-Day recommendation?

*Remember, certain not particularly healthy foods count towards the 5-A-Day: fruit juice (once only) & baked beans (once only), fruit and veg in convenience meals.*

## Slide 047: 8%

## Slide 048: What percentage of 19 - 64 year olds meet the 5-A-Day recommendation?

## Slide 049: 27%

### Slide 050: What percentage of those over 65 years old meet the 5-A-Day recommendation?

### Slide 051: 35%

### Slide 052: The oldies top the medal table

### Slide 053: Ultra-processed food

Source: The Guardian 2018.

Food that is mass produced in a factory from cheap ingredients, attractively packaged, heavily marketed and has a high profit margin.

### Slide 054: What percentage of our calories comes from ultra-processed food?

Sources: Monteiro et al. 2017, Monteiro et al. 2018.

***Group 1.*** *Unprocessed or minimally processed foods*

*Unprocessed (or natural) foods are edible parts of plants (seeds, fruits, leaves, stems, roots) or of animals (muscle, offal, eggs, milk), and also fungi, algae and water, after separation from nature. Minimally processed foods are natural foods altered by processes that include removal of inedible or unwanted parts, and drying, crushing, grinding, fractioning, filtering, roasting, boiling, non-alcoholic fermentation, pasteurization, refrigeration, chilling, freezing, placing in containers and vacuum-packaging. These processes are designed to preserve natural foods, to make them suitable for storage, or to make them safe or edible or more pleasant to consume. Many unprocessed or minimally processed foods are prepared and cooked at home or in restaurant kitchens in combination with processed culinary ingredients as dishes or meals.*

***Group 2.*** *Processed culinary ingredients*

*Processed culinary ingredients, such as oils, butter, sugar and salt, are substances derived from Group 1 foods or from nature by processes that include pressing, refining, grinding, milling and drying. The purpose of such processes is to make durable products that are suitable for use in home and restaurant kitchens to prepare, season and cook Group 1 foods and to make with them varied and enjoyable hand-made dishes and meals, such as stews, soups and broths, salads, breads, preserves, drinks and desserts. They are not meant to be consumed by themselves, and are normally used in combination with Group 1 foods to make freshly prepared drinks, dishes and meals.*

***Group 3.*** *Processed foods*

*Processed foods, such as bottled vegetables, canned fish, fruits in syrup, cheeses and freshly made breads, are made essentially by adding salt, oil, sugar or other substances from Group 2 to Group 1 foods. Processes include various preservation or cooking methods, and, in the case of breads and cheese, non-alcoholic fermentation. Most processed foods have two or three ingredients, and are recognizable as modified versions of Group 1 foods. They are edible by themselves or, more usually, in combination with other foods. The purpose of processing here is to increase the durability of Group 1 foods, or to modify or enhance their sensory qualities.*

***Group 4.*** *Ultra-processed foods*

*Ultra-processed foods, such as soft drinks, sweet or savoury packaged snacks, reconstituted meat products and pre-prepared frozen dishes, are not modified foods but formulations made mostly or entirely from substances derived from foods and additives, with little if any intact Group 1 food. Ingredients of these formulations usually include those also used in processed foods, such as sugars, oils, fats or salt. But ultra-processed products also include other sources of energy and nutrients not normally used in culinary preparations. Some of these are directly extracted from foods, such as casein, lactose, whey and gluten. Many are derived from further processing of food constituents, such as hydrogenated or interesterified oils, hydrolysed proteins, soya protein isolate, maltodextrin, invert sugar and high-fructose corn syrup. Additives in ultra-processed foods include some also used in processed foods, such as preservatives, antioxidants and stabilizers. Classes of additives found only in ultra-processed products include those used to imitate or enhance the sensory qualities of foods or to disguise unpalatable aspects of the final product. These additives include dyes and other colours, colour stabilizers; flavours, flavour enhancers, non-sugar sweeteners; and processing aids such as carbonating, firming, bulking and anti-bulking, de-foaming, anti-caking and glazing agents, emulsifiers, sequestrants and humectants. A multitude of sequences of processes is used to combine the usually many ingredients and to create the final product (hence 'ultra-processed'). The processes include several with no domestic equivalents, such as hydrogenation and hydrolysation, extrusion and moulding, and pre-processing for frying. The overall purpose of ultra-processing is to create branded, convenient (durable, ready to consume), attractive (hyper-palatable) and highly profitable (low-cost ingredients) food products designed to displace all other food groups.*

## Slide 055: 50.7%

Source: Monteiro et al. (2017)

*We are powered by edible food-like substances*

## Slide 056: We are powered by edible food-like substances

Source: Monteiro et al. (2017)

## Slide 057: 'Ultra-processed' products now half of all UK family food purchases The Microbiome

Source: The Guardian 2018.

## Slide 058: What does eating naturally mean?

A Dietary Manifesto in Eight Words

"Eat real food, not too much, mostly plants"

Source: Pollan & Kalman 2011. Food Rules: An Eater's Manual

*Michael Pollan: American best-selling author of many books including In Defence of Food and Food Rules.*

*He has 64 food rules including:*

- *Eat only foods that will eventually rot*
- *Stop eating before you're full*
- *If it came from a plant, eat it; if it was made in a plant, don't.*
- *If your great-great grandma wouldn't recognise it, don't eat it*

- *The longer the shelf life of a product, the shorter your life*
- *If there are more than five ingredients, don't eat it*
- *If a third grader can't pronounce the names of the ingredients, don't eat it*
- *If it has a TV commercial, don't eat it*
- *If a product makes a health food claim, don't eat it*
- *Don't buy your fuel where you get your fuel*
- *Break the rules once in a while.*

## Slide 059: eating naturally = eating a wholefood plant-rich diet

*What do you spot in this picture? Plant-rich does not necessarily mean 100% plant-derived foods:*

## Slide 060: Wholefood plant-rich food plate

Derived from: Davis & Melina 2014, Fuhrman 2011, & Popper & Merzer 2013.

- *Sliver - Avoid: processed meat, non-organic animal products, GMO products, non-organic wheat products*
- *8% - Limit: Alcohol, eggs, dairy, red meat, poultry, fish, oil, sugar, processed food*
- *35% - Vegetables (30-50%): e.g. Kale, cabbage, broccoli, spinach, squash, peppers, onions, garlic, carrots, lettuce, cucumber, tomatoes*
- *20% - Fruits (10-30%): e.g. berries, apples, oranges, peaches, grapes, pears, bananas*
- *20% - Legumes (10-30%): e.g. Kidney beans, black beans, chickpeas, peas, lentils, soybeans, peanuts*
- *8% Nuts & Seeds (5-20%): e.g. Chia seeds, flax seeds, pumpkin seeds, walnuts, cashews*
- *30% - Starches (20-60%): e.g. whole wheat, brown rice, quinoa, potatoes, sweet potatoes.*

## Slides 061-070: Examples of the types of food we eat

## Slide 071: Evidence for wholefood plant-rich diet health advantages

## Slide 072: The role of WFPR in preventing, arresting and reversing disease

- Cardiovascular disease
- Diabetes
- Multiple sclerosis
- Kidney disease
- Cancer
- Chronic liver diseases
- Rheumatoid arthritis
- Alzheimer's disease
- Parkinson's disease
- COPD
- Mood disorders
- Influenza & pneumonia
- Blood infections

## Slide 073: The role of WFPR in preventing, arresting and reversing disease

A timeline of the first dates which I could discover when That was scientific evidence for the claim that a whole food plant rich diet could play an important role in preventing, arresting and reversing common chronic diseases.

*A timeline of the first dates which I could discover when That was scientific evidence for the claim that a whole food plant rich diet could play an important role in preventing, arresting and reversing common chronic diseases.*

- *1926: CVD - The relation of protein foods to hypertension* (Donaldson 1926)*.*
- *1935: Type 2 Diabetes - Effects of the High Carbohydrate-Low Calorie Diet Upon Carbohydrate Tolerance in Diabetes Mellitus* (Rabinowitch 1935)*.*
- *1950: MS - Multiple sclerosis; a correlation of its incidence with dietary fat* (Swank 1950)*.*
- *1955: Kidney disease - Fat emboli in glomerular capillaries of choline-deficient rats and of patients with diabetic glomerulosclerosis* (Hartroft 1955)*.*
- *1975: Cancer - Experimental evidence of dietary factors and hormone-dependent cancers* (Carroll 1975)*.*
- *1977: Chronic liver disease - Effect of vegetable and animal protein diets in chronic hepatic encephalopathy* (Greenberger et al. 1977)*.*
- *1981: Rheumatoid arthritis - Rheumatoid arthritis and food: a case study* (Parke & Hughes 1981)*.*
- *1993: Alzheimer's disease - The incidence of dementia and intake of animal products: preliminary findings from the Adventist Health Study* (Giem, Beeson & Fraser 1993)*.*
- *2001: Parkinson's disease - Does a vegan diet reduce risk for Parkinson's disease?* (McCarty 2001)
- *2010: Mood disorders - Restriction of meat, fish, and poultry in omnivores improves mood: a pilot randomized controlled trial* (Beezhold & Johnston 2012)*.*
- *2010: COPD - Impact of dietary shift to higher-antioxidant foods in COPD: a randomised trial* (Keranis et al. 2010)*.*
- *2011: Influenza and pneumonia - Immunostimulatory in vitro and in vivo effects of a water-soluble extract from kale* (Nishi et al. 2011)*.*
- *2012: Blood infections - Chicken as reservoir for extraintestinal pathogenic Escherichia coli in humans, Canada* (Bergeron et al. 2012)*.*

## Slide 074: The role of WFPR in disease reversal

- Cardiovascular disease
- Cancer
- Diabetes.

## Slide 075: Cardiovascular Disease

Defeating Heart Disease

- 198 CVD patients received counselling to convert from their usual diet to a wholefood plant-based diet
- 177 (89%) complied. Major cardiac events totalled one stroke (0.6% recurrence)
- Thirteen of the 21 non-compliant participants experienced adverse events (63% recurrence).

Source: Esselstyn et al. 2014.

*Participants were considered adherent if they eliminated dairy, fish, and meat, and added oil. Patients were surveyed again after 4 years*

*The Esselstyn photo is of blood flow through a coronary artery (LAD – left anterior descending known as the widowmaker). The LAD supplies the entire front wall of the heart and much of the side wall. The first image was taken on November 27, 1996; and the second image: July 22, 1999. 32 months later. The images are of the LAD of Joe Crow: a surgeon at the Cleveland Clinic who had a heart attack in 1996. The lower one-third of the LAD artery completely motheaten. Following a consultation with Cordwell Esselstyn, Crow adopted the recommended diet and, according to Esselstyn, he "became the personification of plant-based perfection." His recovery involved no drugs or surgery.*

## Slide 076: Animal fat intake and breast cancer

Source: Carroll (1975).

*Using data from 39 countries, Carroll showed a very strong positive correlation between animal fat intake and breast cancer levels.*

## Slide 077: Plant fat intake and breast cancer

Source: Carroll (1975).

*A similar analysis of plant fat intake and breast cancer levels showed no correlation.*

## Slide 078: Animal fat intake is 94% correlated with animal protein

The factor might be levels of animal product consumption rather than animal fat alone.

Source: Carroll (1975).

*The above conclusion would seem more logical given the fact that the food item works as a whole rather than through any one particular subcomponent of it.*

## Slide 079: Diabetes

AHS 2: Prevalence of Type 2 Diabetes in a health conscious group1

A diet that included at least weekly meat intake was associated with a 74% increase in odds of developing diabetes compared with zero meat intake

Sources: Tonstad et al. 2009, Vang et al. 2008.

*It is worth noting that the non-vegans in this cohort ate meat and poultry relatively infrequently (once a week or more for non-vegetarians; less than once a week for semi-vegetarians), suggesting that even small increases in red meat and poultry consumption disproportionately increase the risk of type 2 diabetes.*

## Slide 080: What the Blue Zones tell us

Source: Buettner 2010.

*Blue Zones and Appreciative Inquiry – if you want to do something well, look at the people who are doing it the best and emulate what they are doing. Those living in the Blue Zones are the best at living long and healthy lives so what are they doing?*

## Slide 081: What the longest-lived people have in common

- Family
- Social engagement
- No smoking
- Plant-based diet
- Regular physical activity
- Legumes.

Source: Wikimedia Commons 2019.

## Slide 082: Okinawan Centenarian

Source: Davis 2019.

*Photo of a healthy centenarian in Okinawa – one of the Blue Zones - (Davis 2019)*

## Slide 083: If a wholefood plant-rich diet is so effective, why doesn't everybody promote it?

## Slide 084: Why doesn't everybody promote WFPB?

- Vested interest / conflicts of interest
- Contradictory study findings
- Lack of awareness

FOLLOW THE MONEY

*Conflicts of interest – From: The truth about the Food Industry and Nutrition Education (http://blog.bitingfit.co.uk/?p=183#comments)*

- *Coca-Cola are a sponsor of the UK Association for the Study of Obesity*
- *Currently Kellogg's is a Sponsor for the UK Association for the study of Obesity along with low calorie diet organisations such as Lighter Life, the pharmaceutical industry and a company that specialises in gastric surgery.*
- *Coca-Cola is also a sustaining member of the British Nutrition Foundation*

*Abbot Nutrition is a sponsor of Diabetes UK and the UK Association for the Study of Obesity.*

*A little bit about Abbott:*

- *A subsidiary of pharmaceutical giant Abbott Laboratories, they are one of the world's largest infant formula producers. They manufacture an infant formula containing cane sugar and sucrose known to be unsuitable for newborns. These additives are banned from infant formulas in Europe. Abbott have marketing strategies so aggressive that they breach WHO legislation on the marketing of baby formulas.*
- *Abbott Nutrition also sponsor Education Courses for the BDA (for our Country's Registered Dieticians and Nutritionists) as do the pharmaceutical industry and Coca-Cola. Abbott's dietary guidelines about managing diabetes on their Diabetes Care website which places emphasis on avoiding saturated fats and no recommendations about avoiding sugar or high sugar processed foods.*

*Other member companies include: Unilever, British Sugar Plc, Mars, Macdonald's, Greggs, Pepsico, Nestle Coca-Cola and the list goes on and on….it's available to read on their Annual Report. A recent survey identified that the majority of Registered Dietitians considered Coca-Cola, Pepsico and Mars to be "unacceptable" sponsors.*

*Nestle have sponsored a large IT programme for the British Nutrition Foundation which delivers online courses for training on food and nutrition.*

*NABIM represents virtually 100% of the UK's flour and wheat industry. They are major investors in the British Nutrition Foundation.*

## Slide 085: Conflicts of interest

British Nutrition Foundation

- Our core purpose is to make nutrition science accessible to all and we do this through the interpretation, translation and communication of often complex scientific information.
- In all aspects of our work, we aim to generate and communicate clear, accurate, accessible information on nutrition, diet and lifestyle, which is impartial and relevant to the needs of diverse audiences…

*British Nutrition Foundation Members include (as of 31 May 2018):*

- *Ms J Batchelar OBE BSc PGCE Director of Sainsbury's Brand, J Sainsbury plc*
- *Mr M Bond BSc Health Platform Leader – Active Nutrition, DuPont Nutrition and Health*
- *Dr S Gatenby BSc PhD Senior Director, Nutrition Europe, PepsiCo UK Ltd*
- *Mrs A Greenhalgh-Ball BSc RD Senior Director Nutrition EMEA, Kellogg Company of Great Britain Ltd*
- *Mr D Gregory CSci FIFST, Chairman, Acoura Ltd\**
- *Mr I Rayson BA MA Director of Corporate Communications, Nestlé UK Ltd\**

*.*

## Slide 086: British Nutrition Foundation Governors include representatives of…

Source: British Nutrition Foundation Annual Report 2017-2018 (British Nutrition Foundation 2018)

## Slide 087: Kellogg's

## Slide 088: Nestlé

## Slide 089: PepsiCo

## Slide 090: Contradictory study findings: the example of eggs & cholesterol

Source: Dillner 2015.

*Using the playbook developed by the tobacco industry, large food corporation's product is confusion, with plenty of science available for hire.*

## Slide 091: High cholesterol increases mortality

Source: Stamler, Wentworth & Neaton 1986.

*Is relationship between serum cholesterol and risk of premature death from coronary heart disease continuous and graded? Findings in 356,222 primary screenees of the Multiple Risk Factor Intervention Trial (MRFIT).*

*The authors concluded that: "The pattern of a continuous, graded, strong relationship between serum cholesterol and six-year age-adjusted CHD death rate prevailed for nonhypertensive nonsmokers, nonhypertensive smokers, hypertensive nonsmokers, and hypertensive smokers. These data of high precision show that the relationship between serum cholesterol and CHD is not a threshold one, with increased risk confined to the two highest quintiles, but rather is a continuously graded one that powerfully affects risk for the great majority of middle-aged American men."*

## Slide 092: Dietary cholesterol contributes to blood cholesterol

Meta analysis of 27 studies

Source: Hopkins 1992.

*Among other factors, the degree to which dietary cholesterol affects blood cholesterol is dependent on existing cholesterol levels in the blood. It is analogous to adding three cigarettes a day to two groups - Non-smokers and those who already smoke 20 a day. The effect of the additional three cigarettes will be greater for the non-smokers.*

## Slide 093: Conclusion: Minimise dietary cholesterol as a contribution to longevity and good health

Case Closed

## Slide 094: Very few studies on dietary cholesterol from 2000

Case Closed

*The lack of studies since 2000 can be attributed mainly to the fact that the science overwhelmingly Supported the fact that dietary cholesterol was a health risk.*

*Industry-funded studies stepped into this vacuum.*

*This provides the context for 2013 review of studies which only took into account those published since 2000.*

## Slide 095: 2013 Review of studies

Sources: Barnard 2019, Griffin & Lichtenstein 2013.

*Of the 12 references cited, only one is funded by a non-industry body, ten are funded by the egg industry, and one is funded by a fisheries-related interest group. The subject to the latter study was prawns, which are high in cholesterol.*

## Slide 096: 2013 Review of studies

- The effect of dietary cholesterol on LDL cholesterol concentrations, is modest and appears to be limited to population subgroups.
- In these cases, restrictions in dietary cholesterol intake are likely warranted. Source: Griffin & Lichtenstein 2013

Unsurprisingly, given the sources reviewed, the study found the effect of dietary cholesterol on LDL cholesterol concentrations was modest. However, despite this the authors still recommend restrictions in dietary cholesterol, although that has not been the way it's been reported by industry, or in the popular press.

## Slide 097: 2007 Review of studies on health effects of soft drinks, juice and milk

Studies funded by the food industry are 4- to 8-fold more likely to support conclusions favourable to the industry.

Industry funding of nutrition-related scientific articles may bias conclusions in favour of sponsors' products, with potentially significant implications for public health.

Source: Lesser et al. 2007.

*This reflects the old Maxim – "He who pays the Piper calls the tune."*

## Slide 098: 2013 Non-nutritive sweeteners: review and update

Source: Shankar, Ahuja & Sriram 2013.

- There are mixed reports about the safety of aspartame.
- All of the studies funded by the industry vouch for its safety, whereas 92% of independently funded studies report that aspartame can cause adverse health effects.

## Slide 099: Lack of Awareness

How many days of nutritional  education do medical students receive in UK?

Source: Chung et al. 2014.

*Basic medical education must comprise of no less than 5,500 hours of contact time*

*Nutrition comprises about 0.4% of contact hours yet is responsible for at least 2/3 of disease risk factors.*

## Slide 100: 3 Days

## Slide 101: 3/750

3 days out of at least 750 days of contact time

## Slide 102: 0.4%

3/750 = 0.4%

## Slide 103: Where is the Solution to Chronic Disease?

Just around the corner

*According to mainstream commentators there is a continual promise of a magic bullet that will solve this or that chronic disease that is the process of development and will be rolled out anytime soon.*

## Slide 104: We Already have The Solution

The solution is the adoption a healthy lifestyle, through which the majority of chronic diseases that blight industrialised societies today can be prevented, arrested or reversed. The system that Julie and I have developed and which we teach at intensive workshops is centred around the 7 pillars of a healthy lifestyle:

1. Nutrition: Eat Naturally
2. Hydration: Hydrate properly
3. Sleeping: Sleep soundly
4. Breathing: Breathe effectively
5. Psycho-social health: Manage psycho-social health
6. Movement: Move frequently
7. A healthy environment: Create a healthy environment.

## Slide 105: How to Optimise Body-Mind Health

*Details of the two-day workshop*

## Slide 108: Thank you

## Slide 147: Questions/Observations, Surprises, Confirmations

# References

Barnard N (2019): Cutting Through the Cholesterol Confusion with Dr. Barnard.

Bates B, Cox L, Nicholson S, Page P, Prentice A, Steer T & Swan G (2016): *National Diet and Nutrition Survey: Results from Years 1–4 (combined) of the Rolling Programme (2008/2009 – 2011/12)*. Public Health England.

Beezhold BL & Johnston CS (2012): Restriction of meat, fish, and poultry in omnivores improves mood: a pilot randomized controlled trial. Nutr J **11**: 9.

Bergeron CR, Prussing C, Boerlin P, Daignault D, Dutil L, Reid-Smith RJ, Zhanel GG & Manges AR (2012): Chicken as reservoir for extraintestinal pathogenic Escherichia coli in humans, Canada. Emerg Infect Dis **18**: 415–421.

Bredesen DE (2014): Reversal of cognitive decline: A novel therapeutic program. Aging **6**: 707–717.

British Nutrition Foundation (2018): *British Nutrition Foundation Annual Report 2017-2018*.

Buettner D (2010): The Blue Zones: Lessons for Living Longer from the People Who've Lived the Longest. Washington, D.C.; Enfield: National Geographic Society; Publishers Group UK.

Carroll KK (1975): Experimental evidence of dietary factors and hormone-dependent cancers. Cancer Res **35**: 3374–3383.

Chung M, van Buul VJ, Wilms E, Nellessen N & Brouns FJPH (2014): Nutrition education in European medical schools: results of an international survey. Eur J Clin Nutr **68**: 844–846.

Davis B (2019): Defeating Disease with Whole-Food Plant-Based-Diets. What to Eat - with Author Brenda Davis - YouTube.

Davis B & Melina V (2014): Becoming Vegan: The Complete Reference to Plant-Based Nutrition (Comprehensive Edition.). Summertown, Tennessee: Book Publishing Company.

Dillner L (2015, March 29): Should I eat more eggs? The Guardian.

Donaldson AN (1926): The relation of protein foods to hypertension. Calif West Med **24**: 328–331.

Esselstyn CB, Gendy G, Doyle J, Golubic M & Roizen MF (2014): A way to reverse CAD? J Fam Pract **63**: 356–364b.

Fedewa MV, Hathaway ED, Williams TD & Schmidt MD (2017): Effect of Exercise Training on Non-Exercise Physical Activity: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. Sports Med **47**: 1171–1182.

Foright RM, Presby DM, Sherk VD, et al. (2018): Is regular exercise an effective strategy for weight loss maintenance? Physiol Behav **188**: 86–93.

Fuhrman J (2011): Eat To Live: The Amazing Nutrient-Rich Program for Fast and Sustained Weight Loss (Rev. ed.). New York: Little, Brown and Co.

Giem P, Beeson WL & Fraser GE (1993): The incidence of dementia and intake of animal products: preliminary findings from the Adventist Health Study. Neuroepidemiology **12**: 28–36.

Greenberger NJ, Carley J, Schenker S, Bettinger I, Stamnes C & Beyer P (1977): Effect of vegetable and animal protein diets in chronic hepatic encephalopathy. Am J Dig Dis **22**: 845–855.

Griffin JD & Lichtenstein AH (2013): Dietary Cholesterol and Plasma Lipoprotein Profiles: Randomized-Controlled Trials. Curr Nutr Rep **2**: 274–282.

Hartroft WS (1955): Fat emboli in glomerular capillaries of choline-deficient rats and of patients with diabetic glomerulosclerosis. Am J Pathol **31**: 381–397.

Hopkins PN (1992): Effects of dietary cholesterol on serum cholesterol: a meta-analysis and review. Am J Clin Nutr **55**: 1060–1070.

Keranis E, Makris D, Rodopoulou P, Martinou H, Papamakarios G, Daniil Z, Zintzaras E & Gourgoulianis KI (2010): Impact of dietary shift to higher-antioxidant foods in COPD: a randomised trial. Eur Respir J **36**: 774–780.

Kingston A, Robinson L, Booth H, Knapp M, Jagger C & MODEM project (2018): Projections of multi-morbidity in the older population in England to 2035: estimates from the Population Ageing and Care Simulation (PACSim) model. Age Ageing **47**: 374–380.

Lesser LI, Ebbeling CB, Goozner M, Wypij D & Ludwig DS (2007): Relationship between funding source and conclusion among nutrition-related scientific articles. PLoS Med **4**: e5.

Liu C-C, Liu C-C, Kanekiyo T, Xu H & Bu G (2013): Apolipoprotein E and Alzheimer disease: risk, mechanisms and therapy. Nat Rev Neurol **9**: 106–118.

McCarty MF (2001): Does a vegan diet reduce risk for Parkinson's disease? Med Hypotheses **57**: 318–323.

Monteiro CA, Cannon G, Moubarac J-C, Levy RB, Louzada MLC & Jaime PC (2017): The UN Decade of Nutrition, the NOVA food classification and the trouble with ultra-processing. Public Health Nutr **21**: 5–17.

Monteiro CA, Moubarac J-C, Levy RB, Canella DS, Louzada ML da C & Cannon G (2018): Household availability of ultra-processed foods and obesity in nineteen European countries. Public Health Nutr **21**: 18–26.

Morgan DJ, Dhruva SS, Coon ER, Wright SM & Korenstein D (2019): 2018 Update on Medical Overuse. JAMA Intern Med **179**: 240–246.

Murray CJL, Richards MA, Newton JN, et al. (2013): UK health performance: findings of the Global Burden of Disease Study 2010. Lancet Lond Engl **381**: 997–1020.

Nishi K, Kondo A, Okamoto T, et al. (2011): Immunostimulatory in vitro and in vivo effects of a water-soluble extract from kale. Biosci Biotechnol Biochem **75**: 40–46.

Parke AL & Hughes GR (1981): Rheumatoid arthritis and food: a case study. Br Med J Clin Res Ed **282**: 2027–2029.

Pollan M & Kalman M (2011): Food Rules: An Eater's Manual. New York: Penguin Press.

Popper P & Merzer G (2013): Food Over Medicine: The Conversation that Could Save Your Life. Dallas, Texas: BenBella Books.

Public Health England (2018): *The Eatwell Guide. Helping you eat a healthy, balanced diet*. Public Health England in association with the Welsh Government, Food Standards Scotland and the Food Standards Agency in Northern Ireland.

Rabinowitch IM (1935): Effects of the High Carbohydrate-Low Calorie Diet Upon Carbohydrate Tolerance in Diabetes Mellitus. Can Med Assoc J **33**: 136–144.

Raleigh V (2019, October 22): What is happening to life expectancy in the UK? Kings Fund.

SACN (2012): Dietary reference values for energy. London: Stationery Office.

Shaibi GQ, Ryder JR, Kim JY & Barraza E (2015): Exercise for obese youth: refocusing attention from weight loss to health gains. Exerc Sport Sci Rev **43**: 41–47.

Shankar P, Ahuja S & Sriram K (2013): Non-nutritive sweeteners: review and update. Nutr Burbank Los Angel Cty Calif **29**: 1293–1299.

Shaw K, Gennat H, O'Rourke P & Del Mar C (2006): Exercise for overweight or obesity. Cochrane Database Syst Rev CD003817.

Shook R (2016): Obesity and Energy Balance: What is the role of physical activity? Expert Rev Endocrinol Metab **11**: 511–20.

Speakman JR & Selman C (2003): Physical activity and resting metabolic rate. Proc Nutr Soc **62**: 621–634.

Stamler J, Wentworth D & Neaton JD (1986): Is relationship between serum cholesterol and risk of premature death from coronary heart disease continuous and graded? Findings in 356,222 primary screenees of the Multiple Risk Factor Intervention Trial (MRFIT). JAMA **256**: 2823–2828.

Swank RL (1950): Multiple sclerosis; a correlation of its incidence with dietary fat. Am J Med Sci **220**: 421–430.

The Guardian (2018): Ultra-processed' products now half of all UK family food purchases.

Tonstad S, Butler T, Yan R & Fraser GE (2009): Type of vegetarian diet, body weight, and prevalence of type 2 diabetes. Diabetes Care **32**: 791–796.

Vang A, Singh PN, Lee JW, Haddad EH & Brinegar CH (2008): Meats, Processed Meats, Obesity, Weight Gain and Occurrence of Diabetes among Adults: Findings from Adventist Health Studies. Ann Nutr Metab **52**: 96–104.

Warburton DER & Bredin SSD (2017): Health benefits of physical activity: a systematic review of current systematic reviews. Curr Opin Cardiol **32**: 541–556.

Wikimedia Commons (2019): Venn Diagram created by the Quest Network to illustrate longevity clues in Blue Zones.

Williamson PJ, Atkinson G & Batterham AM (2018): Inter-individual differences in weight change following exercise interventions: a systematic review and meta-analysis of randomized controlled trials. Obes Rev Off J Int Assoc Study Obes **19**: 960–975.