

# Nutrition, Cancer and other chronic diseases: prevention, management and policy

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**Nuclear Techniques  
in Human Health**

*Prevention, Diagnosis, Treatment*



World  
Cancer  
Research  
Fund International

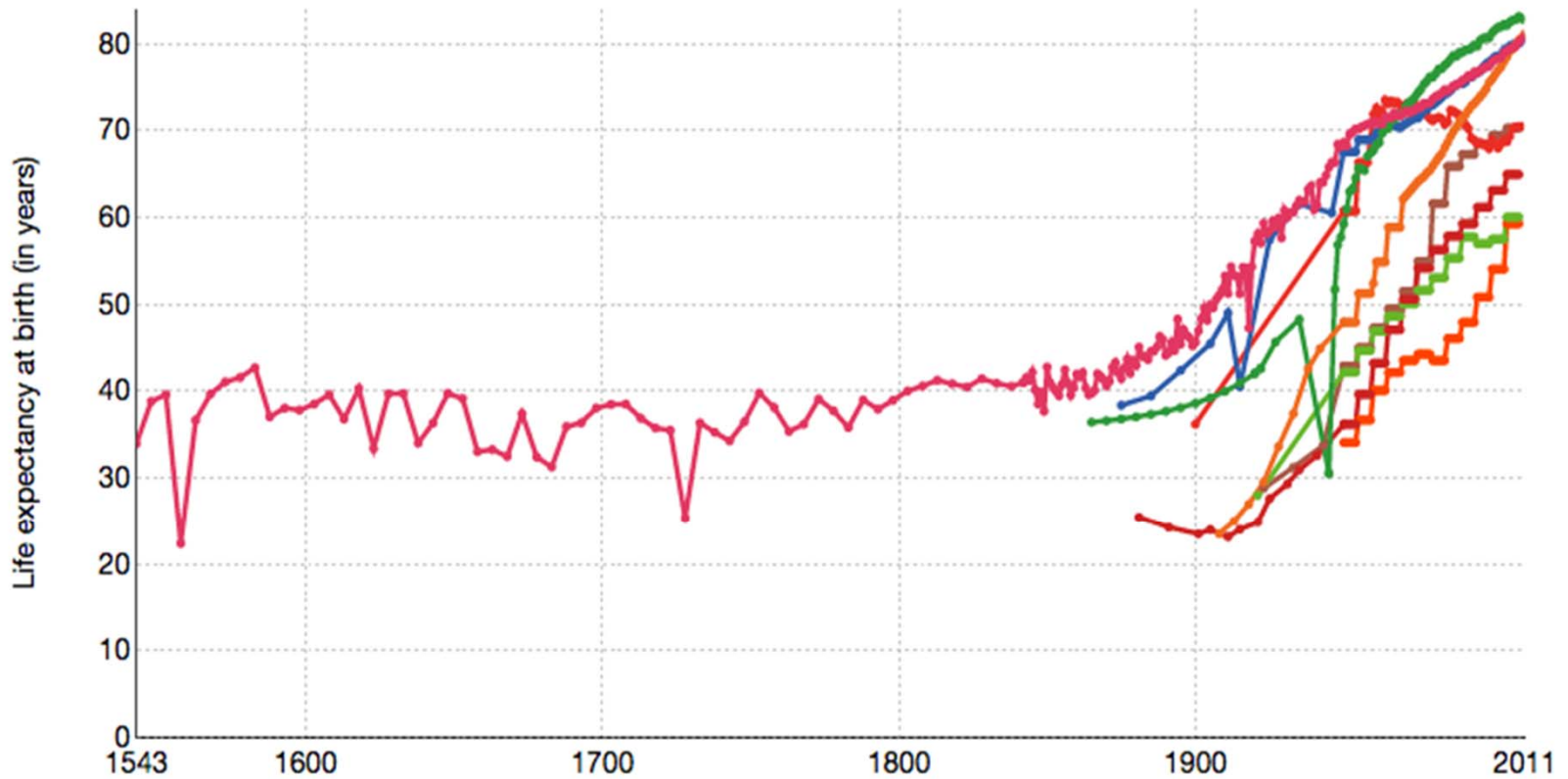
UNIVERSITY OF  
Southampton

# Life expectancy



Algeria Belarus Ethiopia Germany Ghana India Japan South Korea United Kingdom

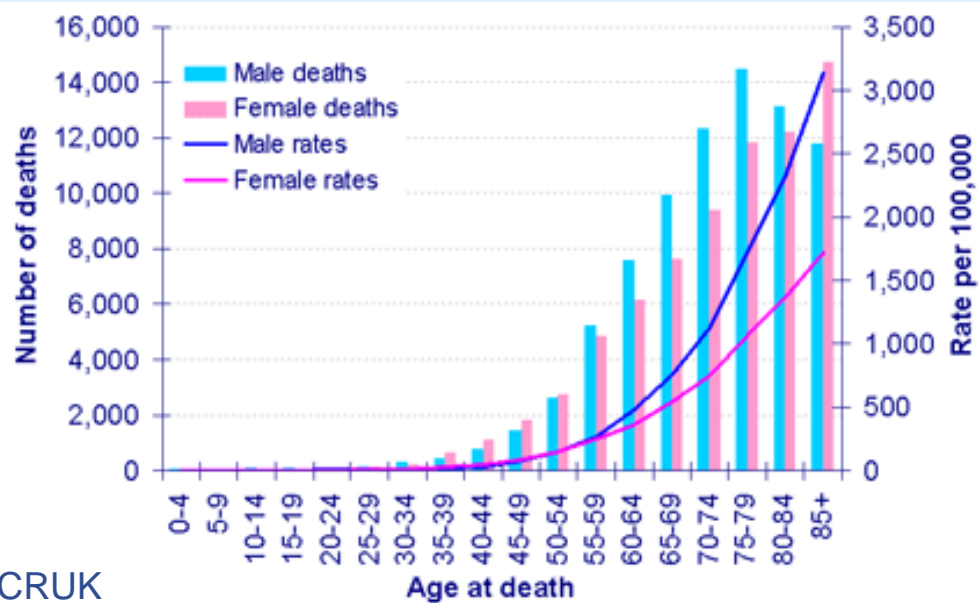
+ Add country



Source: Clio Infra (life expectancy, both genders)

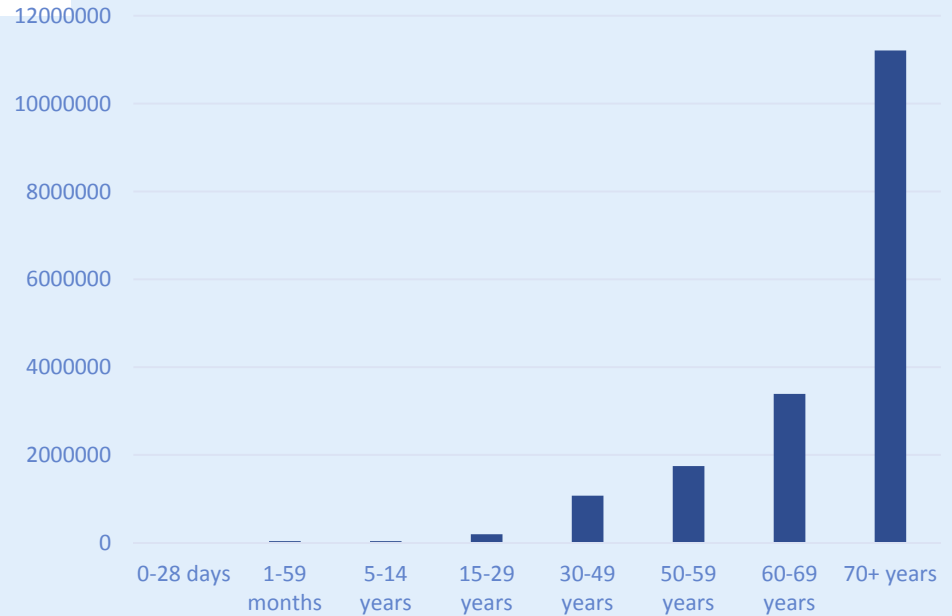
OurWorldInData.org/life-expectancy/ • CC BY-SA

# Cancer deaths by age UK 2016



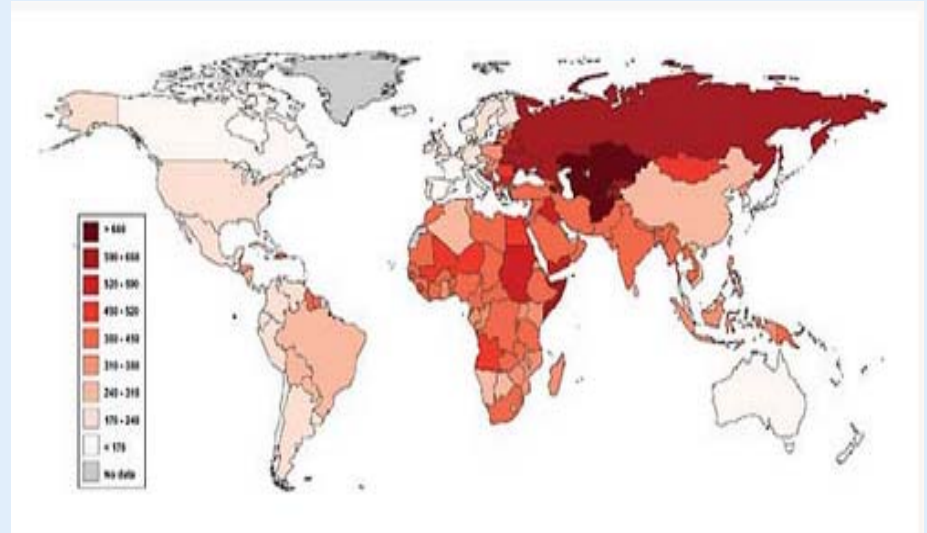
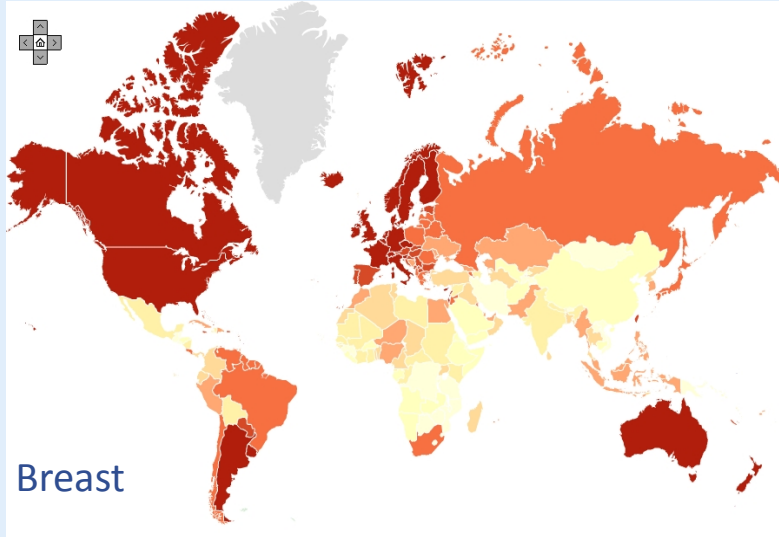
CRUK

# CVD deaths by age World 2015

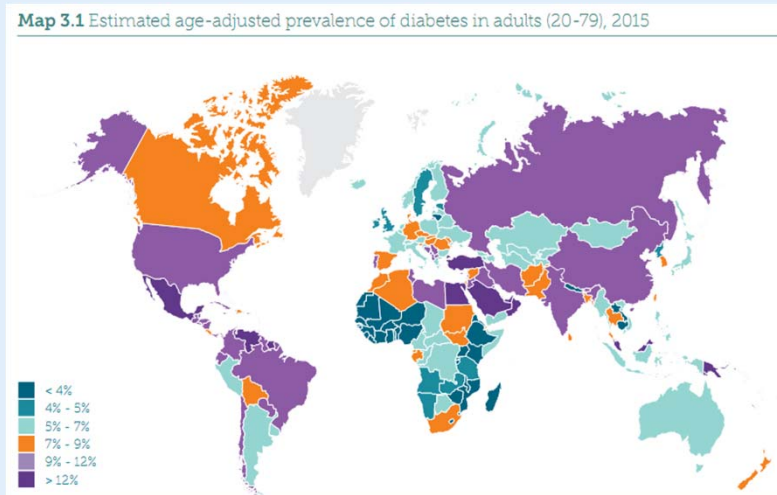


WHO

# Deaths from cancer and cardiovascular disease



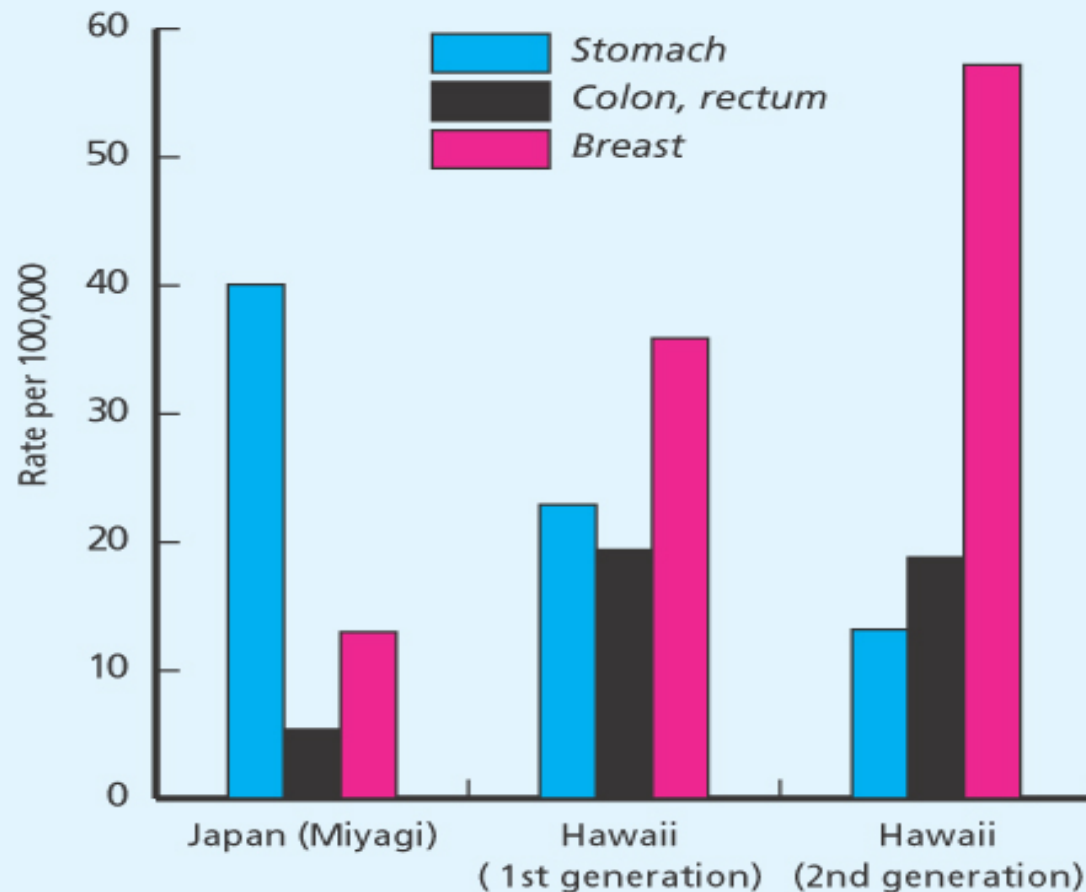
...and  
occurrence  
of diabetes



# Migration data

## Disease rates are not fixed

**Figure 1.2.20 Cancer incidence for selected cancers in Japanese women by generation in Hawaii and Japan, 1968–1977**

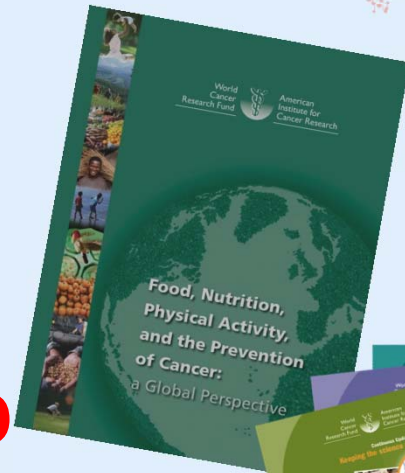


*Age-adjusted to the World Standard Population  
(From Kolonel et al, 1980)*



# Diet, Nutrition, Physical Activity and Cancers

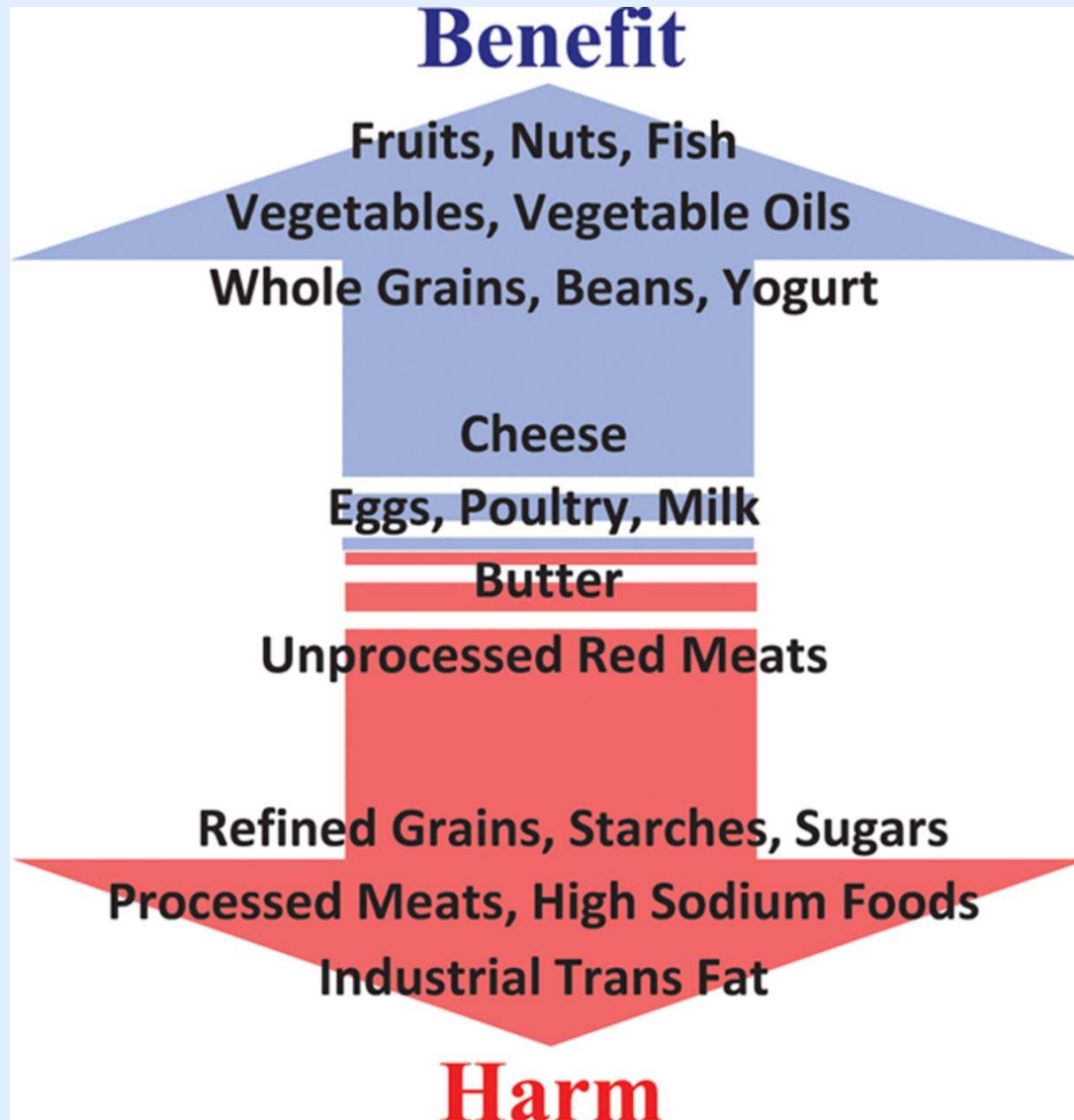
- **OBESITY**
- **PHYSICAL (IN)ACTIVITY**
- **MEAT – RED AND PROCESSED**
- **ALCOHOL**
- **PLANT FOODS (F&V, PULSES, WHOLEGRAINS)**
- **BREASTFEEDING**



# Diet, Nutrition, Physical Activity and Heart Disease



Physical activity

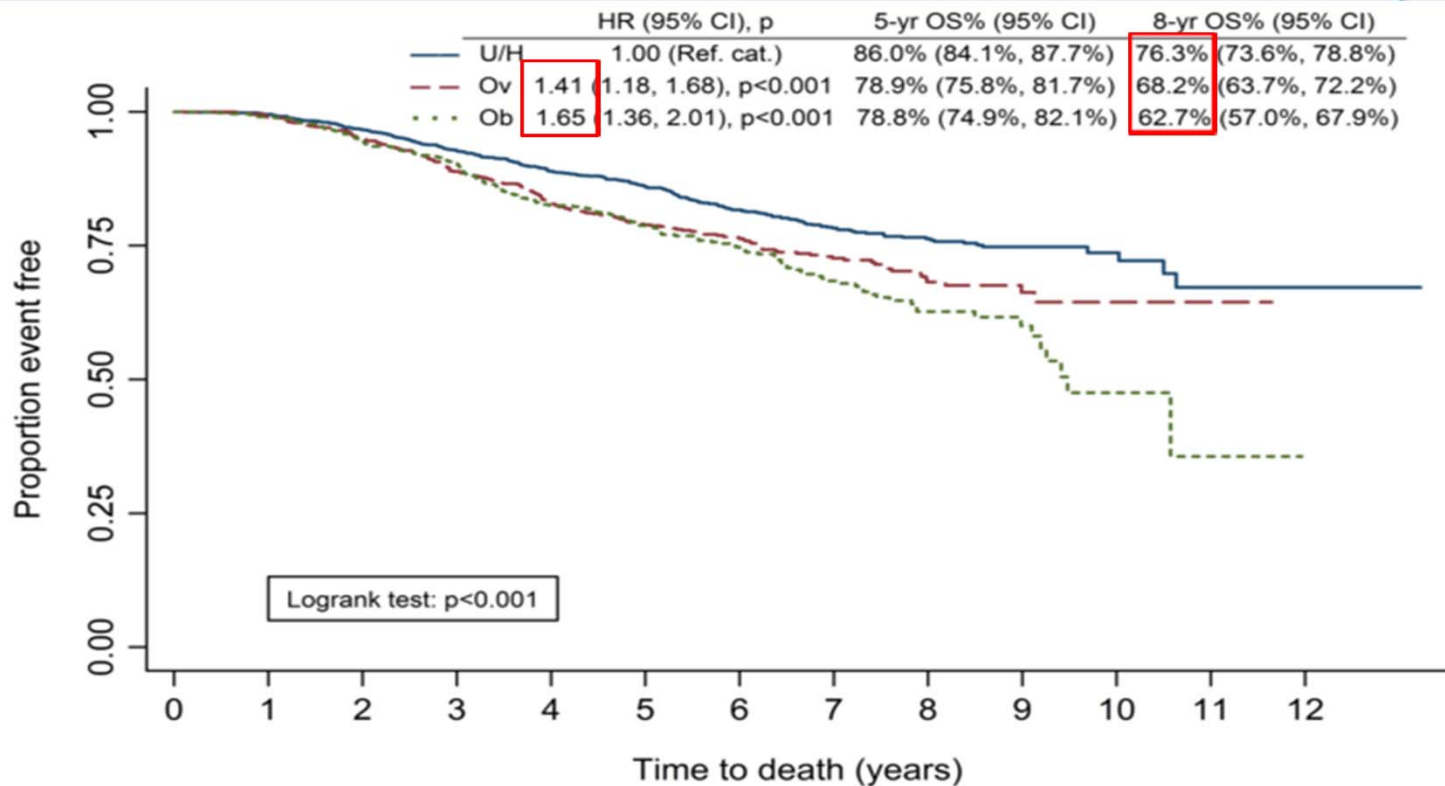


Physical inactivity

Obesity

# Overall survival

## Breast cancer and obesity

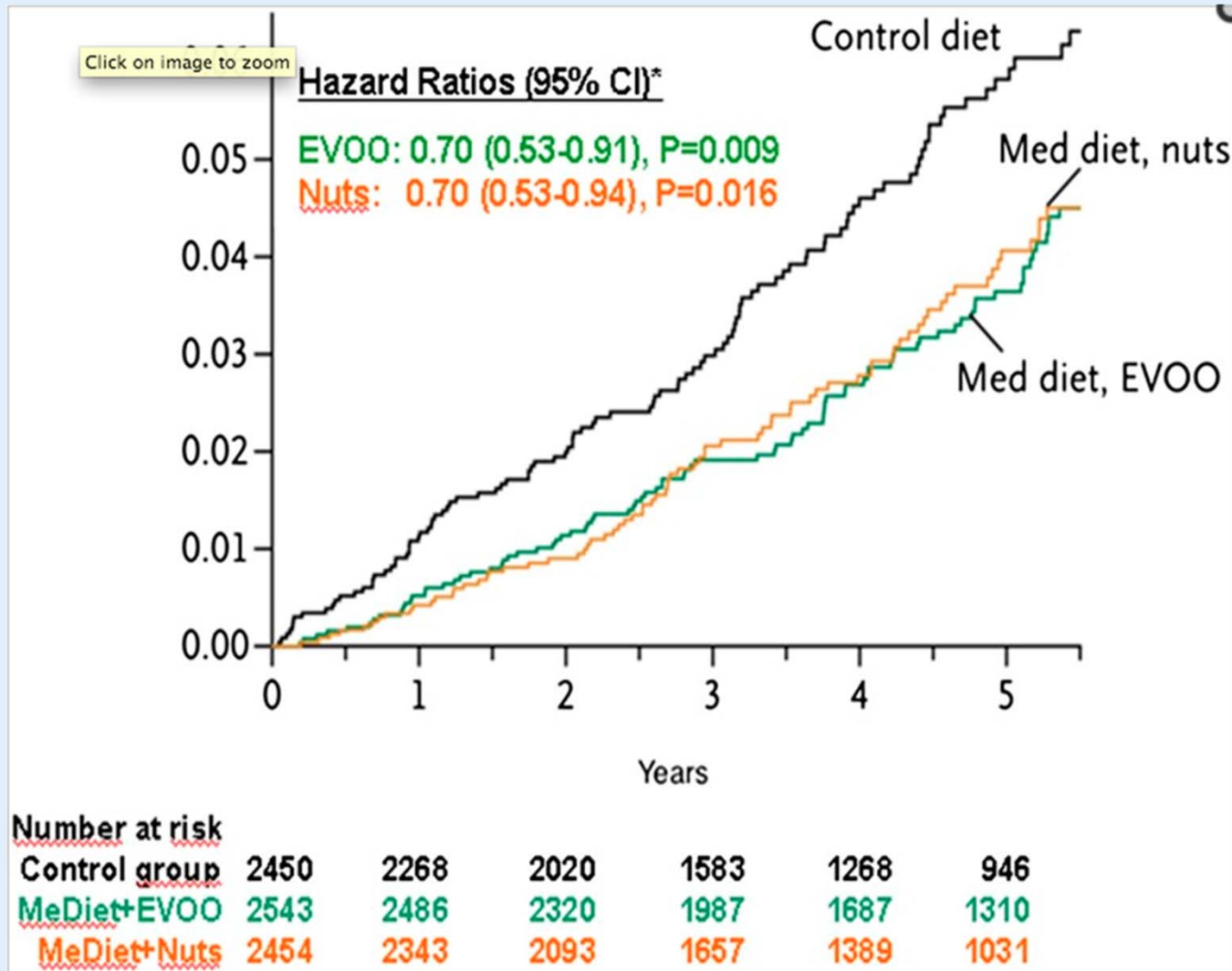


	0	1	2	3	4	5	6	7	8	9	10	11	12
U/H (BMI Less than 25)	1526	1515	1457	1369	1248	1047	755	512	316	155	52	15	3
Ov (BMI 25 to 30)	784	772	733	677	602	509	361	231	128	49	16	2	0
Ob (BMI 30 or more)	533	526	500	469	406	336	230	150	83	35	8	2	0





# Mediterranean-type diet and cardiovascular disease recurrence

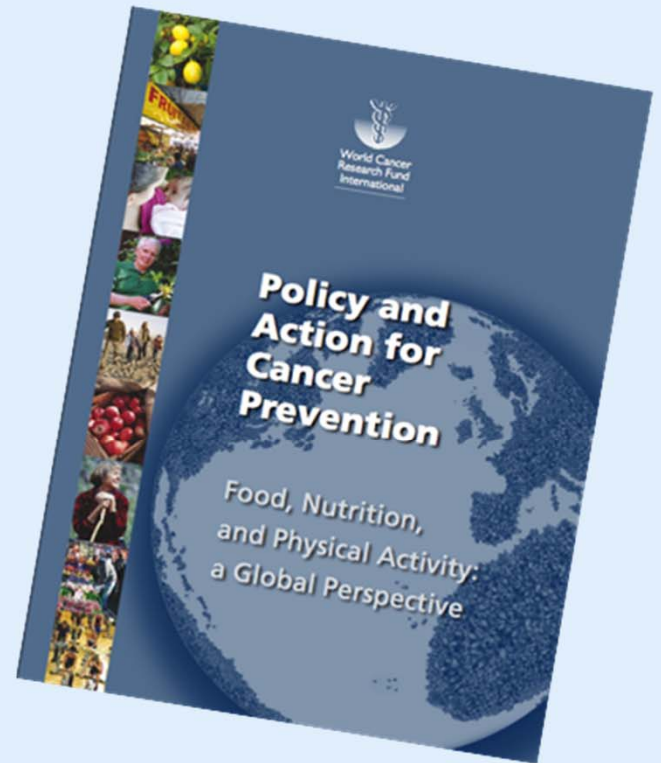




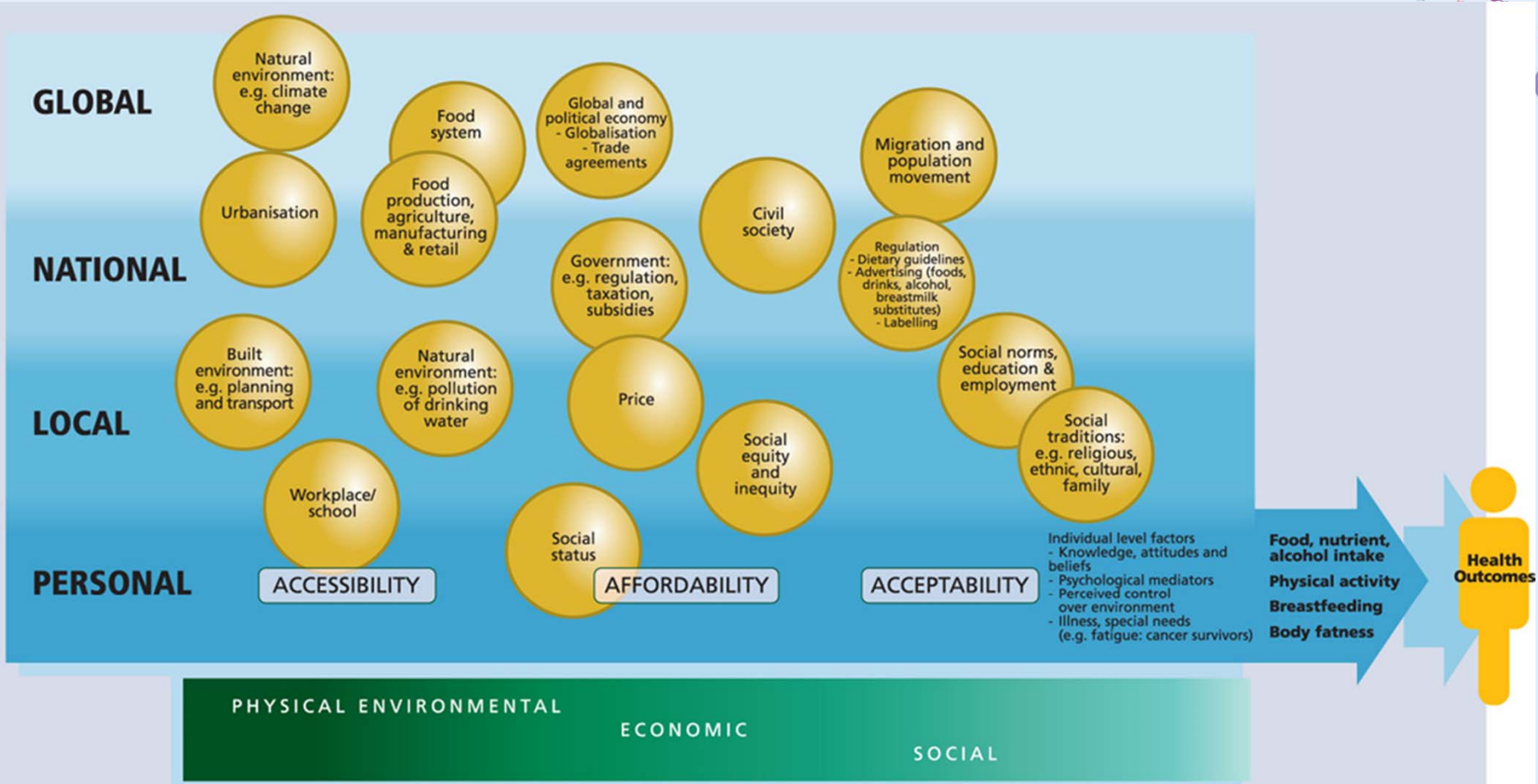


# Determinants of behaviour

- People behave like those around them
  - social norms
- Asking people to behave very differently from their social norm only has limited or unsustained effect
- Personal choice determines individual variation around the social norm
  - small effect
- External factors determine social norms
  - big effect



# Factors that affect people's diet and activity



# Cancer and cardiovascular disease

- Cancer and heart disease are the main causes of death worldwide – cancer is catching up. Diabetes is also a growing problem
- They share many common risk factors; after smoking, obesity and other nutritional factors are the main causes
- Nutritional factors predict outcome in people with cancer, and heart disease and nutritional support is important in management
- Understanding the biology of how nutrition affects risk is key
- Policy needs to deal with structural issues that determine people's food and activity choices, as well as offering information





The background is a solid blue color with a complex, abstract pattern of concentric circles and segments. The pattern consists of several layers of overlapping, semi-transparent blue rings and segments, creating a sense of depth and movement. The segments are arranged in a way that suggests a circular path or a series of steps. The overall effect is a modern, geometric design.

**Thank you**