

# Diet, Nutrition, Physical Activity and Cancer: a Global Perspective

- Breast cancer



# History of the expert reports

- The Third Expert Report builds on the groundbreaking achievements of the First and Second Expert Reports



# • The Continuous Update Project (CUP)

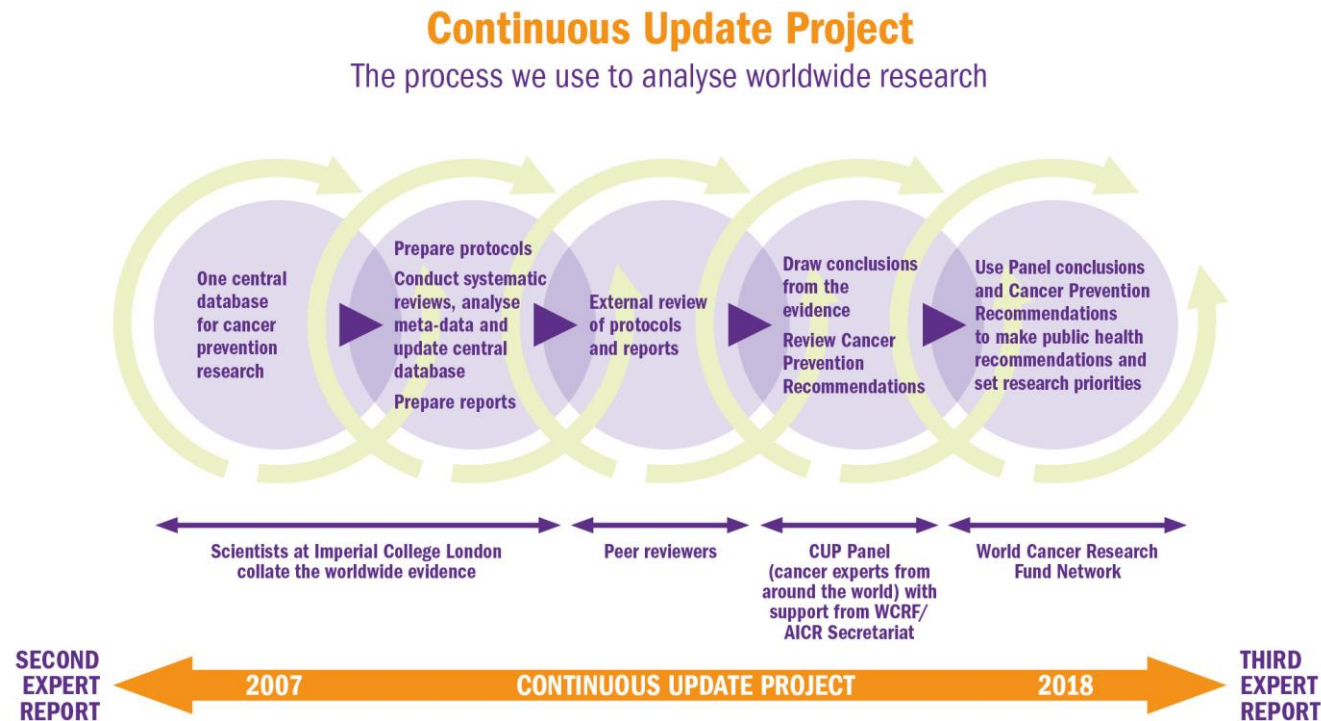
## Who is involved?





# The Continuous Update Project (CUP)

- Rigorous, systematic and ongoing programme
- Trusted, authoritative scientific resource
- Provides the most up-to-date information on reducing cancer risk



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# • Judging the Evidence – Grading Criteria

**Evidence Matrix**

		Decreases risk	Increases risk
Strong evidence	Convincing	<b>Basis for Recommendations</b>	
	Probable		
Limited evidence	Limited - suggestive		
	Limited – no conclusion		
Strong evidence	Substantial effect on risk unlikely		

Pre-defined requirements determining grading of evidence:

- Number and types of studies
- Quality of exposure and outcome assessment
- Heterogeneity within and between study types
- Exclusion of chance, bias or confounding
- Biological gradient
- Evidence of mechanisms
- Size of effect

# Premenopausal breast cancer risk

- vigorous physical activity decreases
- Overweight/Obese in young adulthood/and before menopause decreases
- Breastfeeding decreases (mothers)
- Alcoholic drinks increases
- Being tall increases
- Greater birthweight increases

2017	DIET, NUTRITION, PHYSICAL ACTIVITY AND PREMENOPAUSAL BREAST CANCER		
		DECREASES RISK	INCREASES RISK
STRONG EVIDENCE	Convincing		Adult attained height <sup>1</sup>
	Probable	Vigorous physical activity Body fatness <sup>2</sup> Lactation <sup>3</sup>	Alcoholic drinks <sup>4</sup> Greater birthweight <sup>5</sup>
LIMITED EVIDENCE	Limited – suggestive	Non-starchy vegetables (ER– breast cancers only) <sup>6</sup> Dairy products Foods containing carotenoids <sup>7</sup> Diets high in calcium Physical activity <sup>8</sup>	
	Limited – no conclusion	Cereals (grains) and their products; dietary fibre; potatoes; non-starchy vegetables (ER+ breast cancers); fruits; pulses (legumes); soya and soya products; red and processed meat; poultry; fish; eggs; fats and oils; total fat; vegetable fat; fatty acid composition; saturated fatty acids; mono-unsaturated fatty acids; polyunsaturated fatty acids; trans-fatty acids; cholesterol; sugar (sucrose); other sugars; sugary foods and drinks; coffee; tea; carbohydrate; starch; glycaemic index; glycaemic load; protein; vitamin A; riboflavin; vitamin B6; folate; vitamin B12; vitamin C; vitamin D; vitamin E; calcium supplements; iron; selenium; phytoestrogens; isoflavones; dichlorodiphenyldichloroethylene; dichlorodiphenyltrichloroethane; dieldrin; hexachlorobenzene; hexachlorocyclohexane; trans-nonachlor; polychlorinated biphenyls; acrylamide; dietary patterns; culturally defined diets; sedentary behaviour; adult weight gain; energy intake	
STRONG EVIDENCE	Substantial effect on risk unlikely		

# Postmenopausal breast cancer risk

## Strong evidence

- **Physical activity** decreases
- **Breast feeding** (mother) decreases
- **Overweight/obese in young adulthood** (18 - 30 years) decreases
- **Overweight/obese throughout adulthood** increases
- **Weight gain** in adulthood increases
- **Being tall** increases
- **Alcohol** increases

2017	DIET, NUTRITION, PHYSICAL ACTIVITY AND POSTMENOPAUSAL BREAST CANCER		
		DECREASES RISK	INCREASES RISK
STRONG EVIDENCE	Convincing		Alcoholic drinks <sup>1</sup> Body fatness <sup>2</sup> Adult weight gain Adult attained height <sup>3</sup>
	Probable	Physical activity <sup>4</sup> Body fatness in young adulthood <sup>5</sup> Lactation <sup>6</sup>	
LIMITED EVIDENCE	Limited – suggestive	Non-starchy vegetables (ER+ breast cancers only) <sup>7</sup> Foods containing carotenoids <sup>8</sup> Diets high in calcium	
	Limited – no conclusion	Cereals (grains) and their products; dietary fibre; potatoes; non-starchy vegetables (ER+ breast cancers); fruits; pulses (legumes); soya and soya products; red and processed meat; poultry; fish; eggs; dairy products; fats and oils; total fat; vegetable fat; fatty acid composition; saturated fatty acids; mono-unsaturated fatty acids; polyunsaturated fatty acids; trans-fatty acids; cholesterol; sugar (sucrose); other sugars; sugary foods and drinks; coffee; tea; carbohydrate; starch; glycaemic index; glycaemic load; protein; vitamin A; riboflavin; vitamin B6; folate; vitamin B12; vitamin C; vitamin D; vitamin E; calcium supplements; iron; selenium; phytoestrogens; isoflavones; dichlorodiphenyldichloroethylene; dichlorodiphenyltrichloroethane; dieldrin; hexachlorobenzene; hexachlorocyclohexane; trans-nonachlor; polychlorinated biphenyls; acrylamide; dietary patterns; culturally defined diets; sedentary behaviour; energy intake	
STRONG EVIDENCE	Substantial effect on risk unlikely		



# Breast cancer survivors

DIET, NUTRITION, PHYSICAL ACTIVITY AND BREAST CANCER SURVIVAL – ALL-CAUSE MORTALITY					
		DECREASES RISK		INCREASES RISK	
		Exposure	Timeframe	Exposure	Timeframe
STRONG EVIDENCE	Convincing				
	Probable				
LIMITED EVIDENCE	Limited – suggestive	Physical activity	Before diagnosis	Body fatness	Before diagnosis
			≥12 months after diagnosis		<12 months after diagnosis
		Foods containing fibre	Before diagnosis		Total fat
			≥12 months after diagnosis	Before diagnosis	
Foods containing soy	≥12 months after diagnosis	Saturated fatty acids	Before diagnosis		
STRONG EVIDENCE	Substantial effect on risk unlikely				
<b>STRONG:</b> Evidence strong enough to support a judgement of a convincing or probable causal relationship and generally justify making recommendations					
<b>LIMITED:</b> Evidence that is too limited to justify making specific recommendations					

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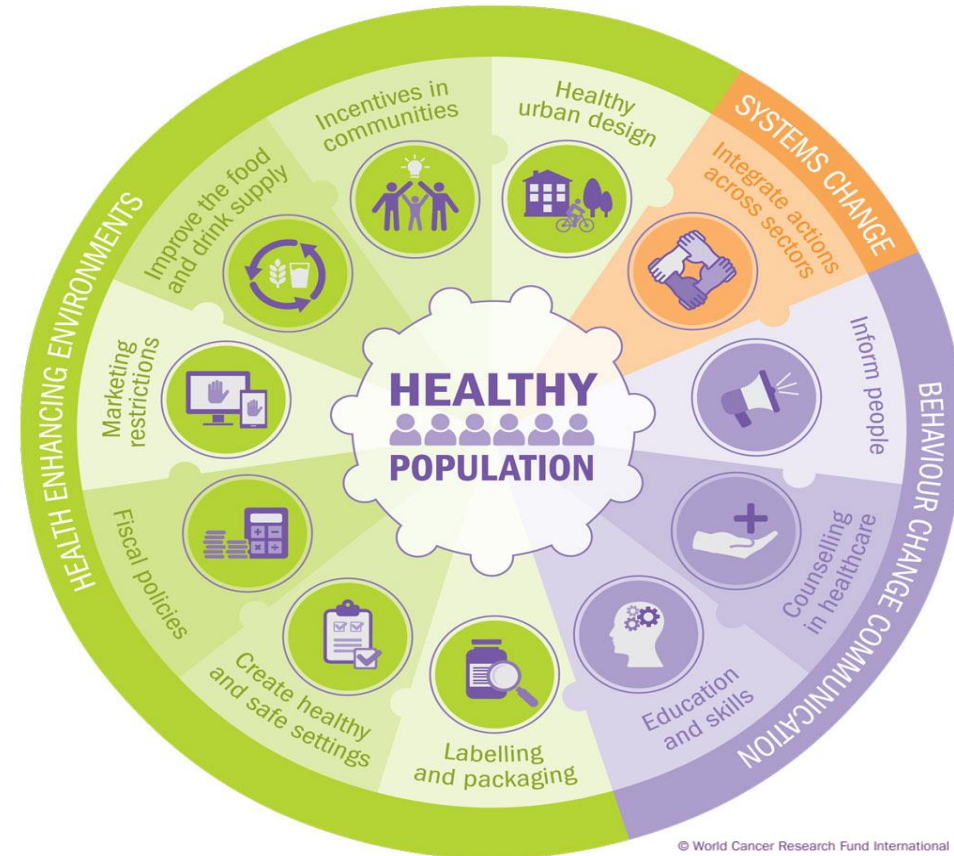
# Changes since 2007 - Emerging evidence

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- Growth in the amount of high-quality data allowing **sophisticated analyses** of cancer risk **by level of exposure and cancer subtypes**:
- Influence of **height** on cancer risk has become **more apparent**.
- Importance of **the life course** in general is **emerging more strongly**.
- Evidence on **cancer survivors** is accumulating, though still at **early stage**.

# A new Framework = A Package

- **Healthy weight**
- **Healthy diet**
- **Physical activity**
- **Breastfeeding**
- **Alcohol consumption**



# Changes since the 2007 Second Expert Report

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- The Recommendations are **similar to those in the 2007** Report. Consistency **increases confidence** in evidence base, with an important **shift in emphasis**.
- Increasingly **unlikely that specific foods**, nutrients or other components of foods are major factors.
- Different **patterns of diet and physical activity** combine to create **a metabolic state** that is more, or less, conducive to the cancer development.
- Most benefit - viewing the **Recommendations as a overall 'package'**.

- Thank you!

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## CUP Panel and WCRF Team

