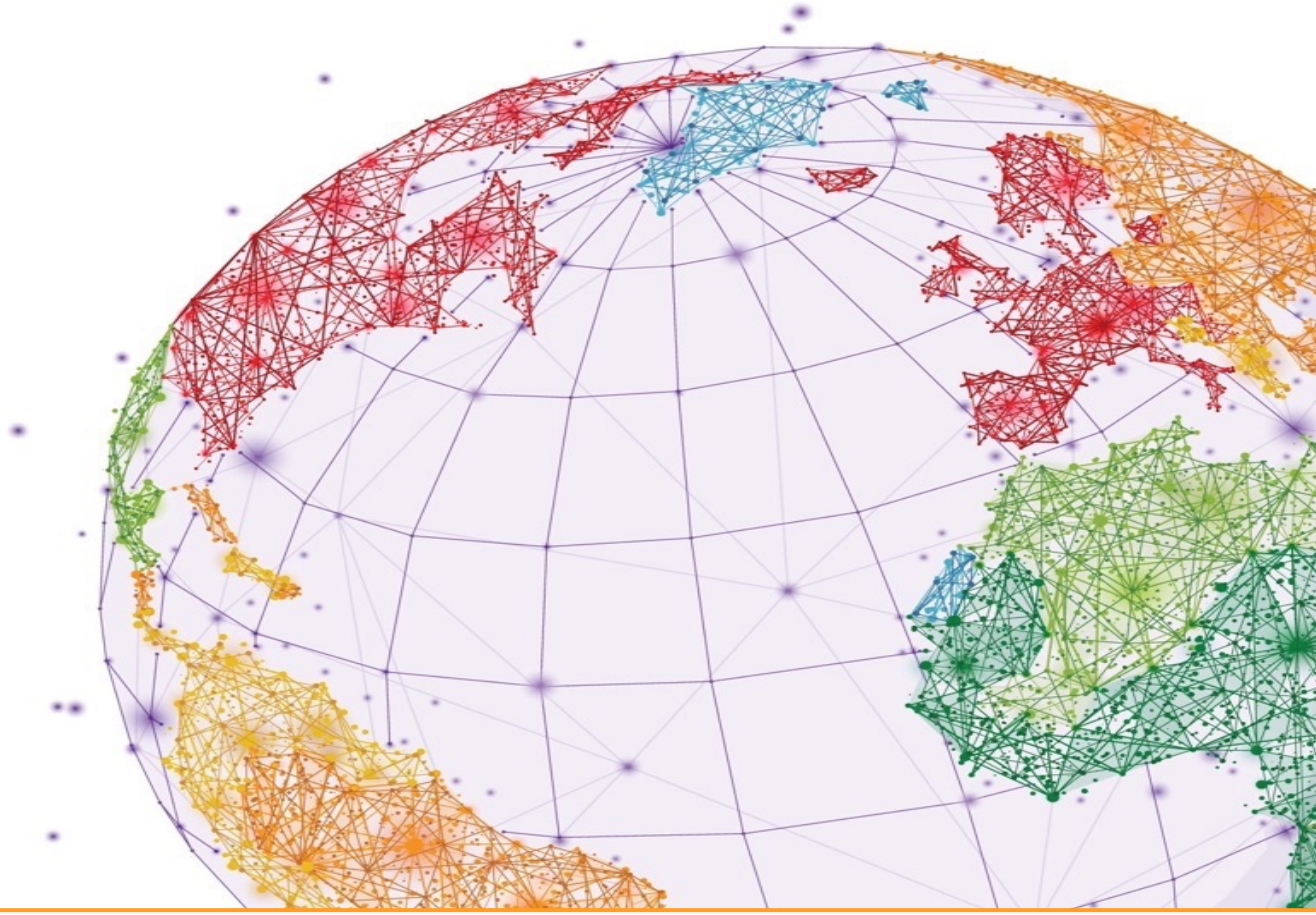
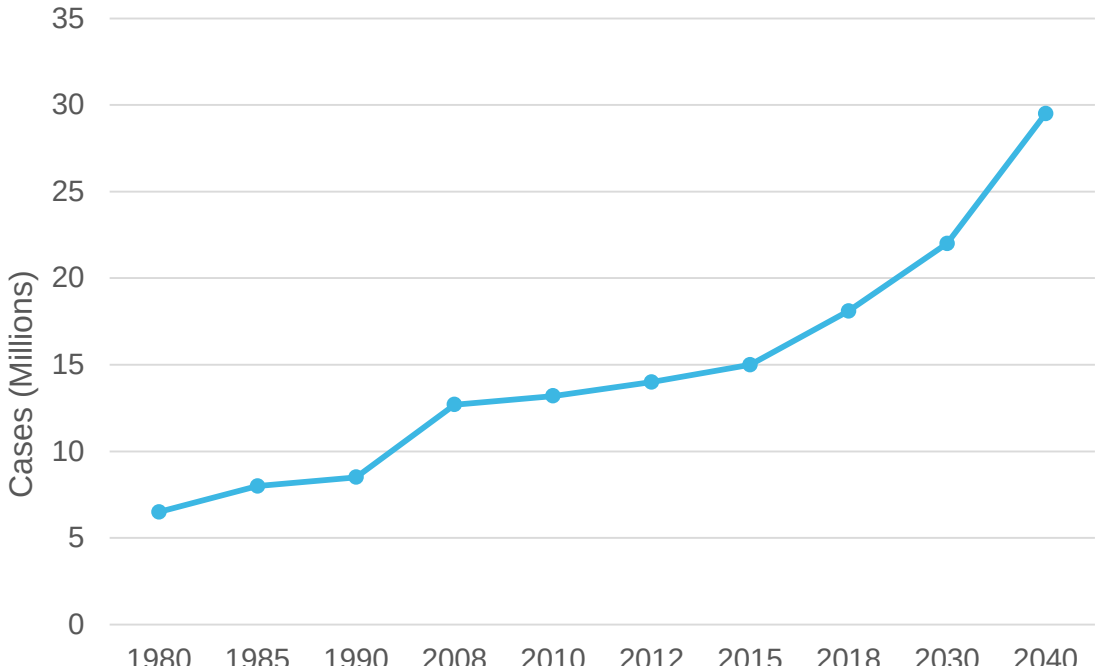


Scientific evidence and policy implications for obesity and cancer prevention: The WCRF perspective

Kate Allen, ECO satellite symposium April 27 2019

World Cancer Research Fund International

Global number of new cases of cancer: actual & predicted



Excluding NMSC. Data from Parkin et al.; Pisani et al.; GLOBOCAN 2012, IARC; GLOBOCAN 2018, IARC

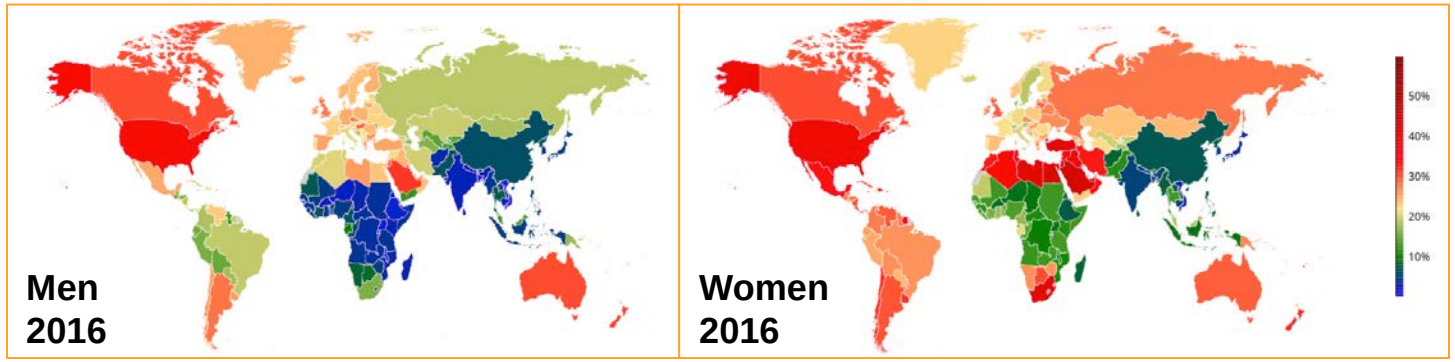
Main cancer burden in LMIC

Many cancers preventable through maintaining a healthy weight, being physically active and having a healthy diet

Global burden of obesity

		1975	2016	
Adults (>19 years)	Men	31 million	**281 million**	**671 million**
	Women	69 million	**390 million**	
Children (5—19 years)	Boys	6 million	**74 million**	**124 million**
	Girls	5 million	**50 million**	

Additional 213 million children & 1·30 billion adults in the OW range, but below the threshold for obesity



Source: Worldwide trends in body-mass index, underweight, overweight, and obesity from 1975 to 2016: a pooled analysis of 2416 population-based measurement studies in 128.9 million children, adolescents, and adults. Lancet 2017, published online 11 October 2017. Data available at: http://ncdrisc.org/index.html

Cancer types and overweight/obesity

Cancer site	RR per 5 kg/m^2	Evidence level
Endometrium	1.50 (1.42-1.59)	Convincing
Oesophagus (adenocarcinoma)	1.48 (1.35-1.62)	Convincing
Kidney	1.30 (1.25-1.35)	Convincing
Liver	1.30 (1.16-1.46)	Convincing
Gallbladder	1.25 (1.15-1.37)	Probable
Stomach (cardia)	1.23 (1.07-1.40)	Probable
Mouth, Pharynx and Larynx	1.15 (1.06-1.24)	Probable
Breast (postmenopausal)	1.12 (1.09-1.15)	Convincing
Pancreas	1.10 (1.07-1.14)	Convincing
Prostate (advanced)	1.08 (1.04-1.12)	Probable
Ovary	1.06 (1.02-1.11)	Probable
Colorectum	1.05 (1.03-1.07)	Convincing

Overweight/ obesity: mechanisms that increase cancer risk

Exposure	Systemic impact	Cell function	Hallmarks possibly affected
Greater body fatness	Hyperinsulinemia	mTOR/PI3K/AKT, MAPK	Reduced apoptosis; increased proliferation; genome instability
	Increased oestradiol	MAPK/ERK/PI3K	Increased proliferation in ER-positive tissues; genome instability
	Inflammation	STAT3/NF-κB	Reduced apoptosis; increased cell division; altered macrophage function; genome instability
		WNT, P53	Cellular energetics

Future research directions: overweight/obesity and cancer risk

Encouraging research into:

- Biological **mechanisms**
- Impact across the **life course**
- Impact of **intentional weight loss**
- Impact of **sedentary behaviours** as risk factors for obesity
- **Body composition** including loss of lean mass/sarcopenic obesity
- Role of **body composition and weight management** in the context of **cancer survival**

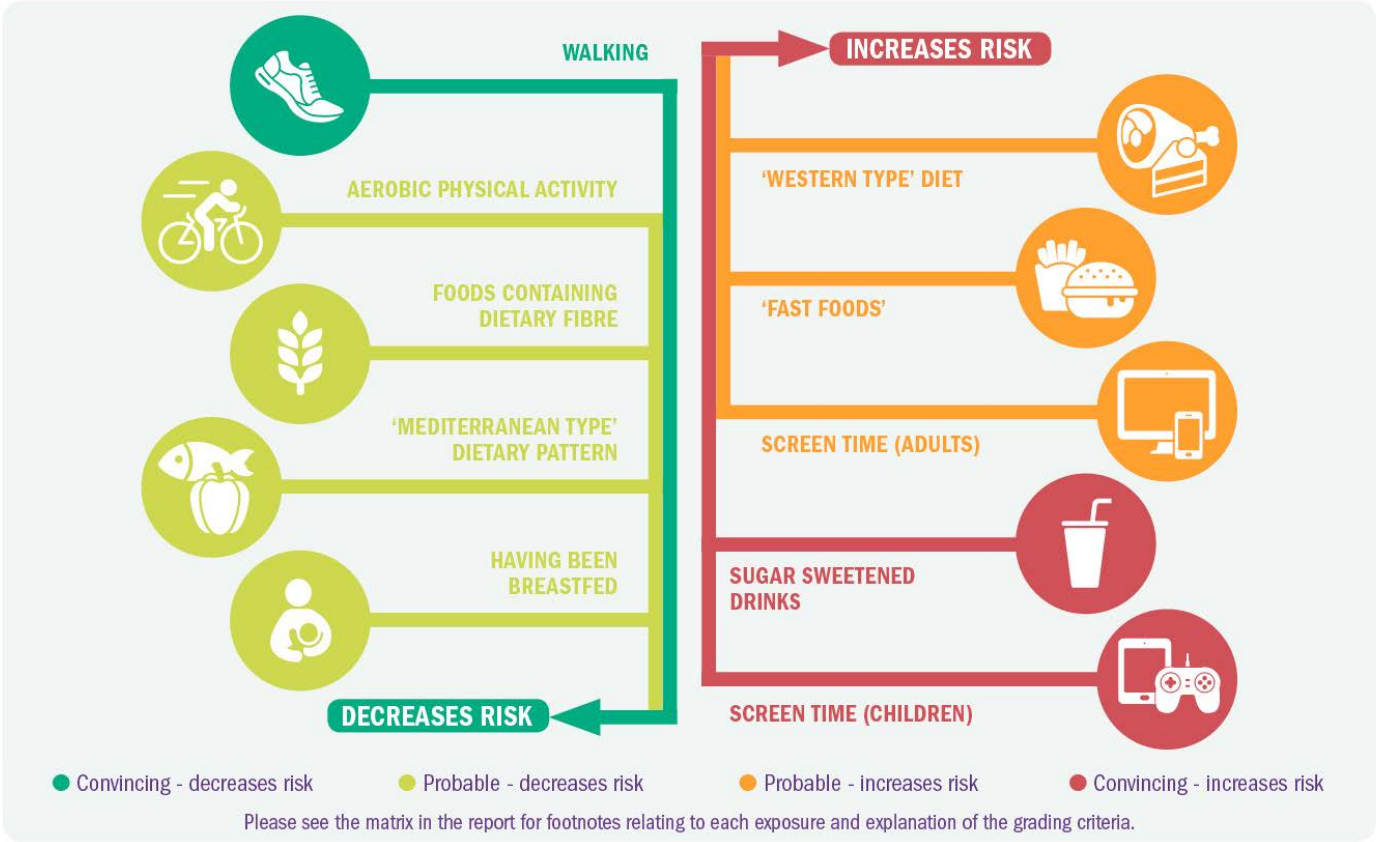
Encourage better characterisation of exposure:

- **Objective measures** of body composition beyond anthropometric measures – **new technologies**, lean mass and body fat percentage

Factors fuelling obesity

Our recent report, **Diet, nutrition and physical activity: Energy balance and body fatness** examines the factors fuelling weight gain, overweight & obesity

(in delegate bag)



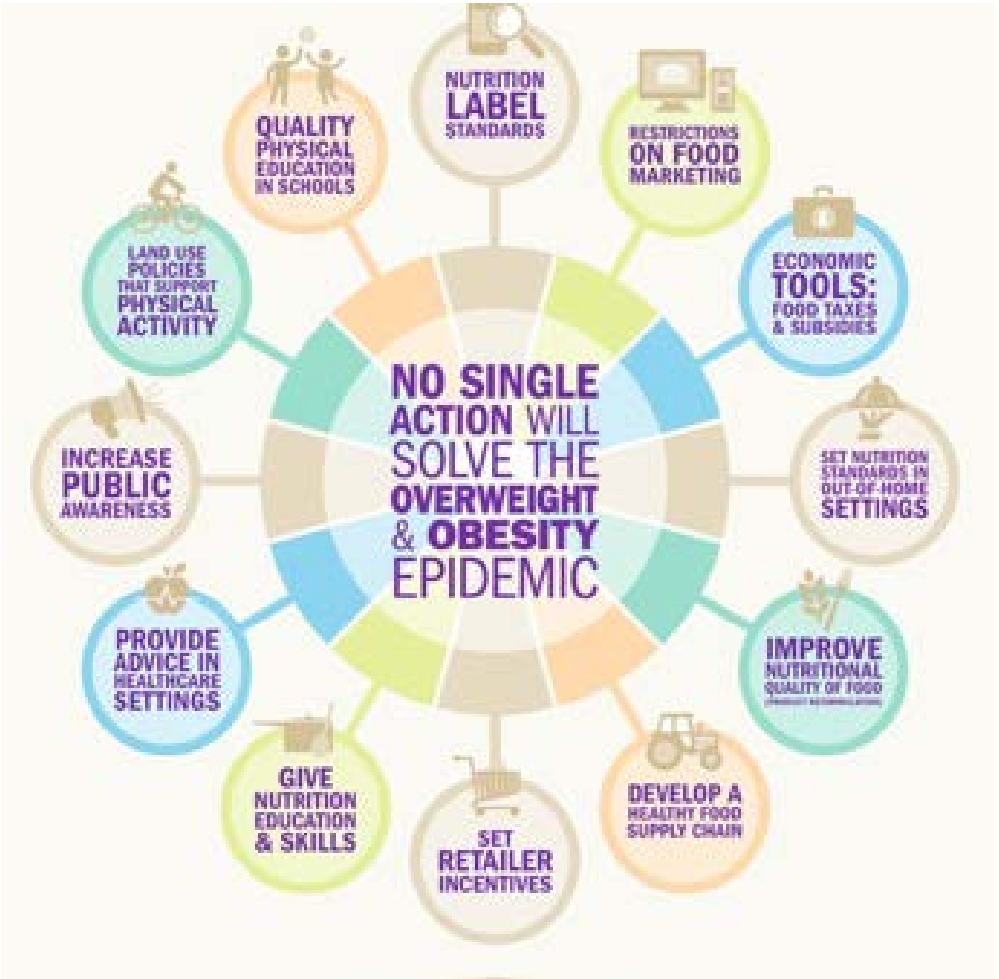
wcrf.org/energy-balance-body-fatness

2018 cancer prevention recommendations

Greater body fatness **increases** the risk of 12 cancers

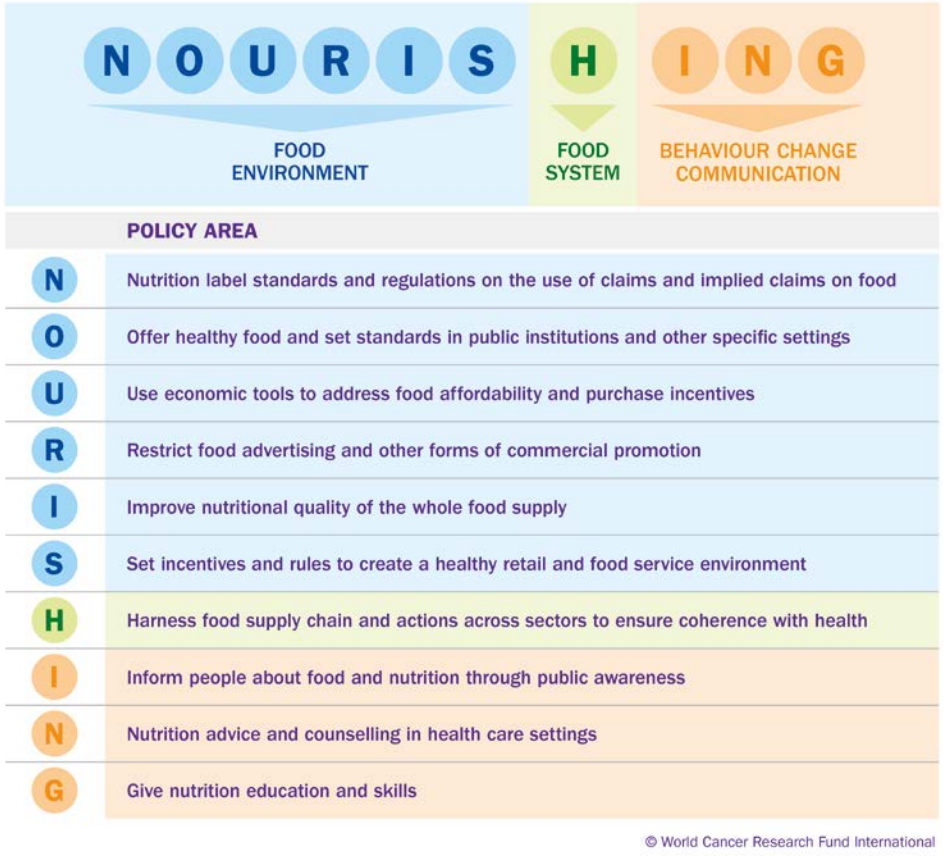
Addressing overweight and obesity - from science to policy

- Important to translate scientific evidence into tangible policy options that prioritise prevention (eg laws, regulations, guidelines)
- Complex landscape, many factors influence obesity
- Critical to consider environment within which people make choices & which influences their behaviour



Using a policy framework to support action

- ✓ **conceptualise, organise** and **package** policies
- ✓ **plan, develop, implement** and **evaluate** policies
- ✓ **identify** available **policy levers** and **options** that can be used **to create health-enhancing environments**
- ✓ develop a **comprehensive policy approach**, **adapted** to **reflect national contexts**



Policymakers

Civil society organisations

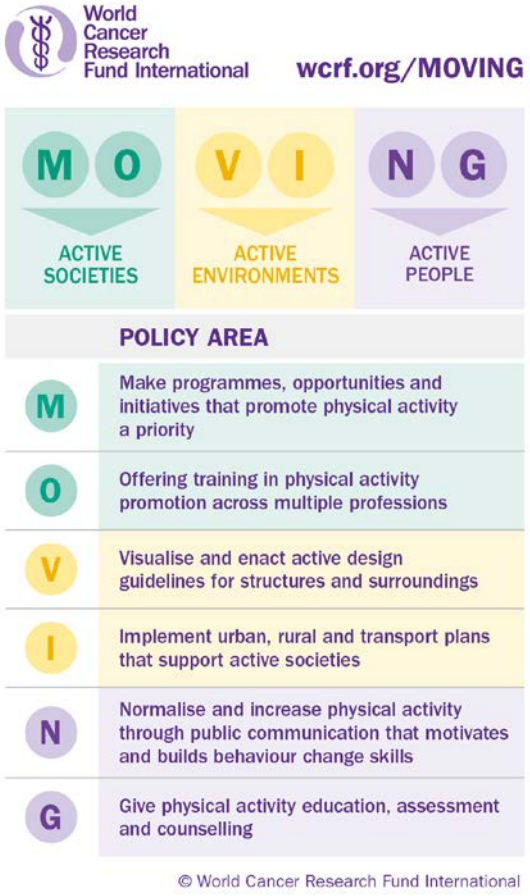
Researchers

World Cancer Research Fund International

wcrf.org/NOURISHING

CO-CREATE – confronting obesity: co-creating policy with youth

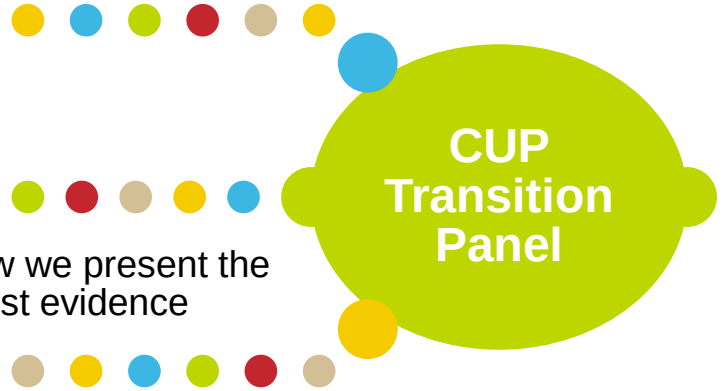
- 5 yr project funded by **European Commission Horizon 2020** Research & Innovation Programme
- 14 intl research & advocacy organisations
- Working with **young people** to create, inform & disseminate policies to **tackle obesity** among their peers
- WCRFI developing a **physical activity framework/**database equivalent to NOURISHING



Continuous Update Project (CUP) transition

SLRs on survivors of breast, CRC, prostate by 2020

How we think about the evidence/what new to capture eg **cancer survivors**, metabolomics, genetics



How we present the latest evidence

Internal processes

***18 month period of review**, encompassing methodology, outputs, Panel, mechanisms, survivors & more.*

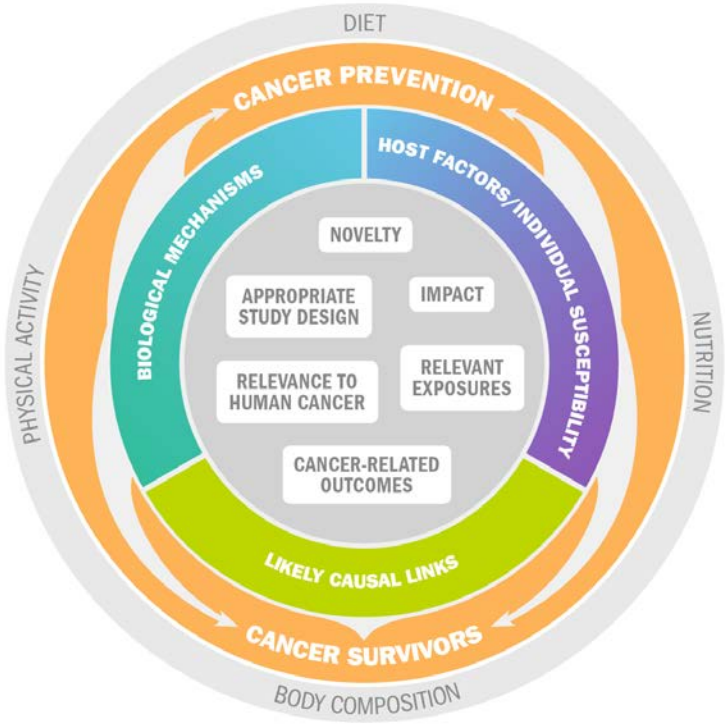
The 'new' CUP

- adopts the **right approach** to the evidence
- remains **innovative** and **incorporates new developments** in the research
- delivers **benefit** to the **scientific field**

WCRF International Grant Programme

New call late July 2019

- II grants maximum £350K for up to four years
- Seed grants maximum of £60K for up to two years.



World Cancer Research Fund International

Thank you!

k.allen@wcrf.org

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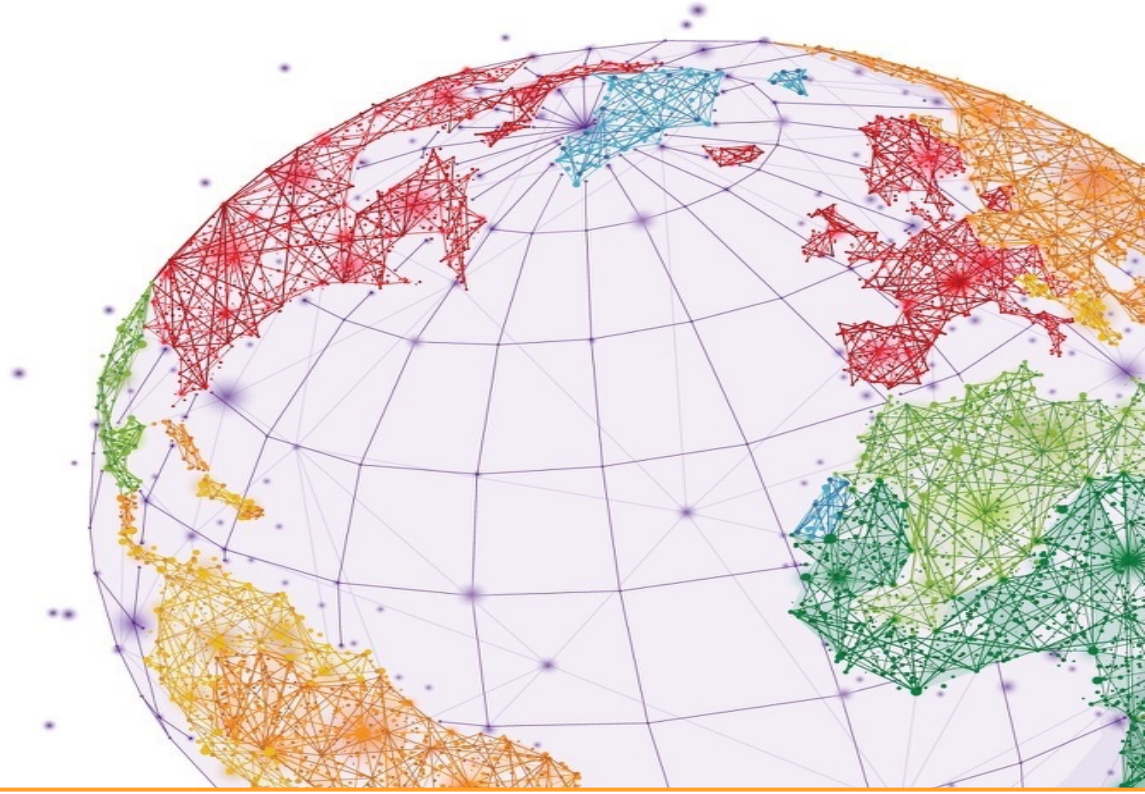

Summary

- New cases of cancer expected to hit approx 30 million globally by 2040, largely fuelled by an increase in overweight/obesity
- Strong evidence linking overweight/obesity to 12 cancer types – various mechanisms involved that impact hallmarks of cancer through modification of specific metabolic pathways
- Research gaps include mechanisms, life course, impact of weight reduction
- Whole of government, whole of society approach needed to tackle overweight/obesity – policy frameworks helpful to organise evidence
- Coming from WCRF – CO CREATE, new grant call (late July), cancer survivors