

Addressing dietary inequalities

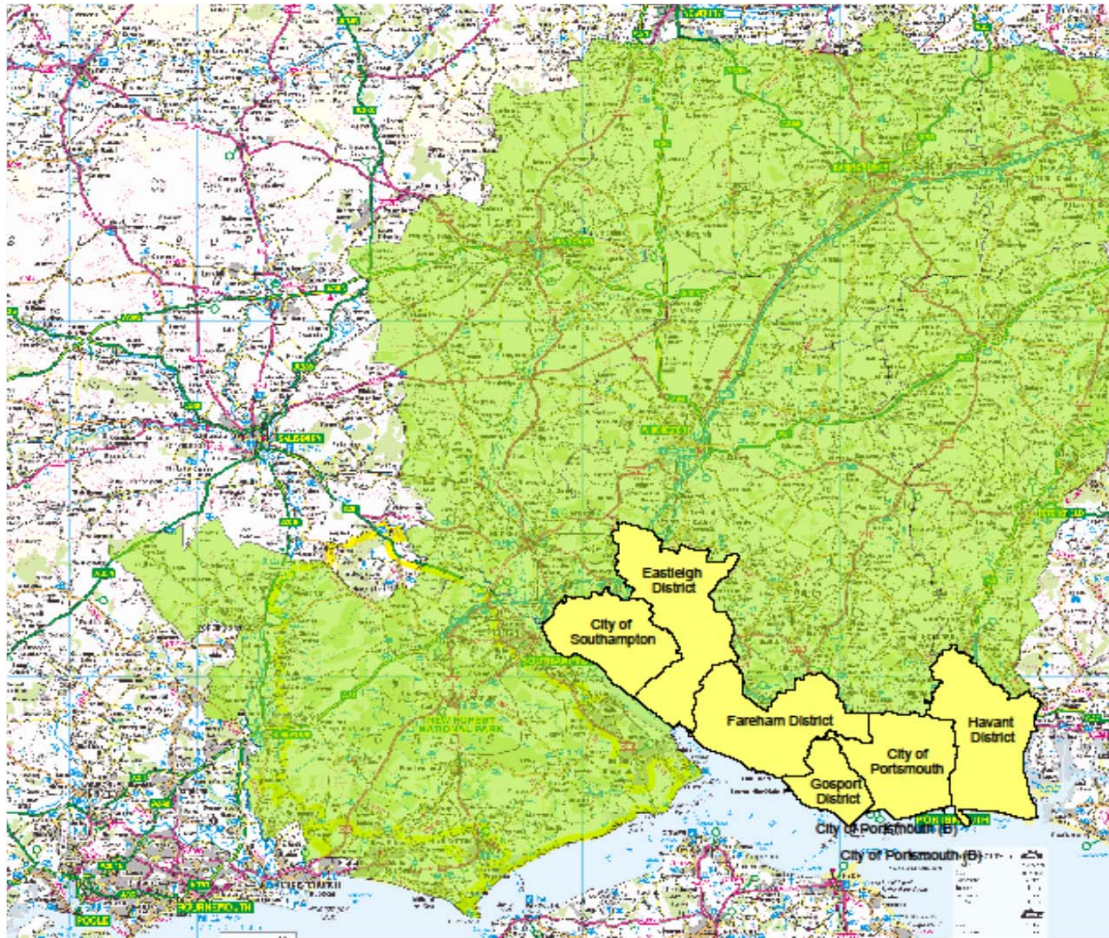
- Information/media campaigns largely ineffective among disadvantaged groups^{1,2}
- Effective interventions for disadvantaged groups address environmental and social determinants^{1,2}



The modern food environment

- Socioeconomic disparities in fast food outlet access across high-income countries¹
- 45% increase in fast-food outlets in the UK over the last 18 years²
- Most deprived areas have had greatest rise, 43% compared with 30% in least deprived areas²

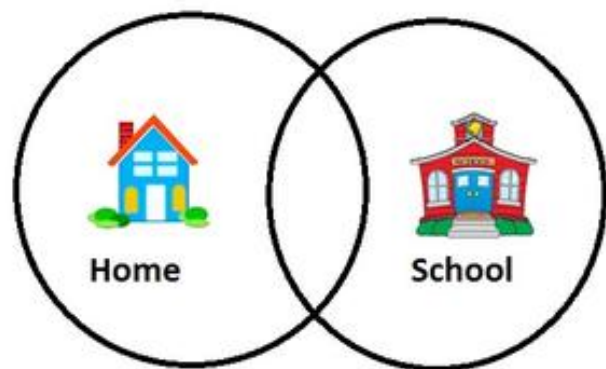




Store type	n	%
Premium supermarket	10	(0.5)
Large supermarket	32	(2)
Discount supermarket	35	(2)
Small supermarket	127	(7)
'World' store	63	(4)
Greengrocer	41	(2)
Farm shop	7	(0.5)
Health food store	19	(1)
Butcher	56	(3)
Baker	68	(4)
Sandwich shop	66	(4)
Convenience store	272	(15)
Petrol store	68	(4)
Newsagent	65	(4)
Confectioner	76	(4)
Fast food chain	92	(5)
Chinese takeaway	223	(12)
Indian takeaway	151	(8)
Fish & chips	143	(8)
Other takeaway	173	(10)
Total	1787	(100)

Food outlet access in Hampshire

- Most children aged 6 years have ≥ 10 fast-food outlets around home and school (some ≥ 50)¹
- Only 1% of women with young children have greater access to healthy, rather than unhealthy, food outlets in their daily activities²



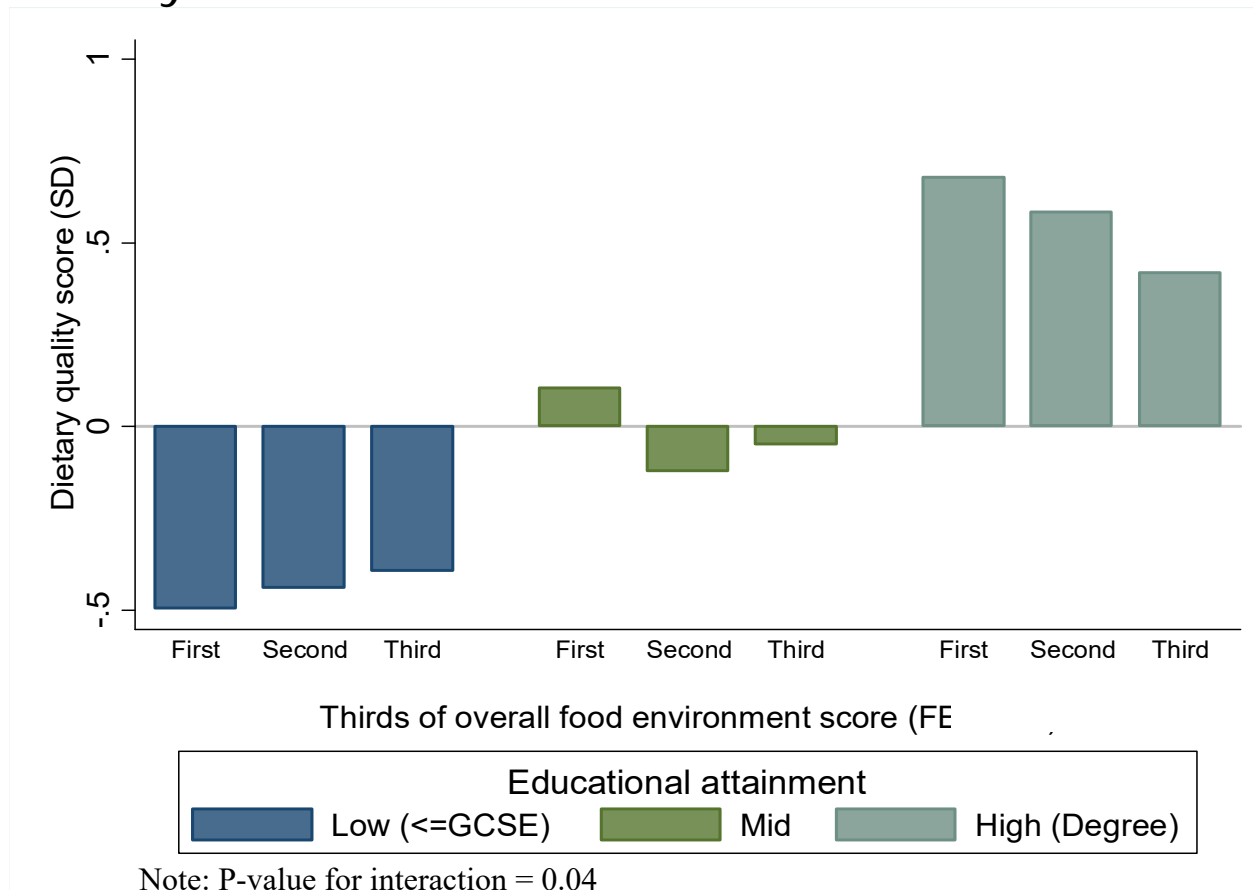
Food outlet access & child health

- Greater access to healthy specialty stores around home and school associated with better quality diet at 6 years²
- Greater maternal access to:
 - fast food outlets linked to poorer bone health at birth
 - healthy speciality stores linked to better bone health at 4 years¹

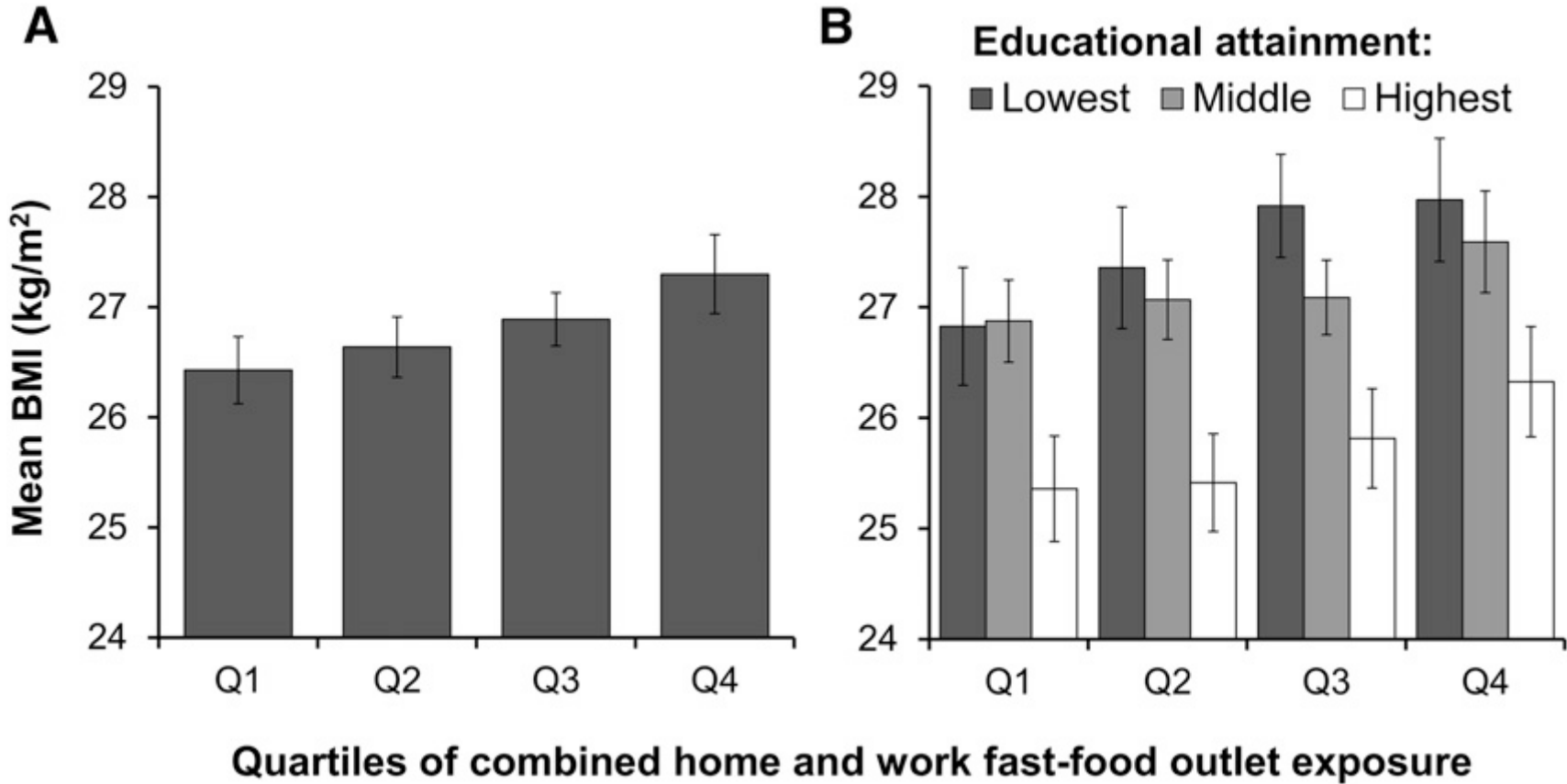


Food outlet access & women's diet

- Diets of women with degree qualifications show less susceptibility to unhealthy food environments than those with low education levels

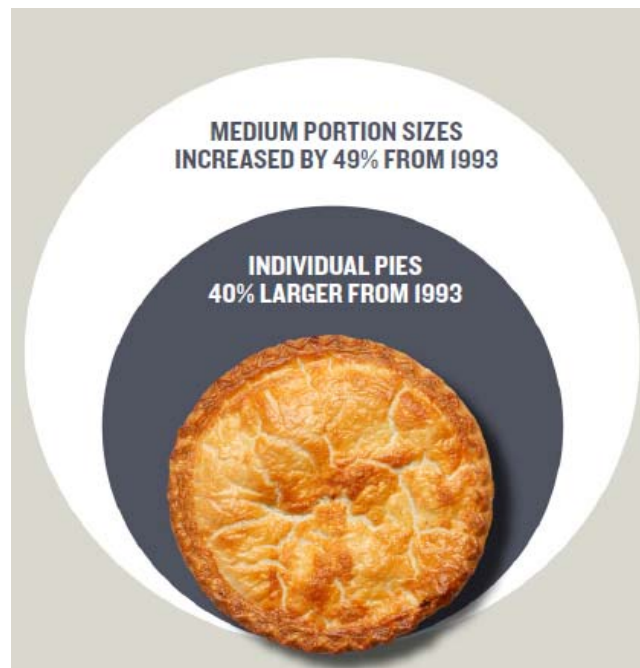


Fast food access & obesity



The modern in-store environment

- Healthier diets cost more than nutrient poor, energy dense diets¹
- Portion sizes of unhealthy foods have increased significantly²
- Southampton's most deprived neighbourhoods have stores with:
 - poorer quality fruit and vegetables
 - fewer varieties of healthy foods³





Variety



Price



Promotion



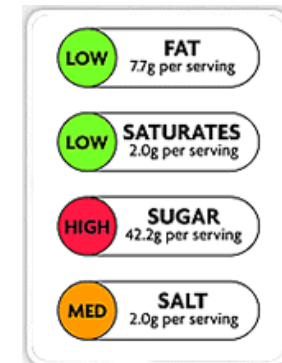
Store placement



Shelf placement



Quality



Nutrition information

Healthier alternative

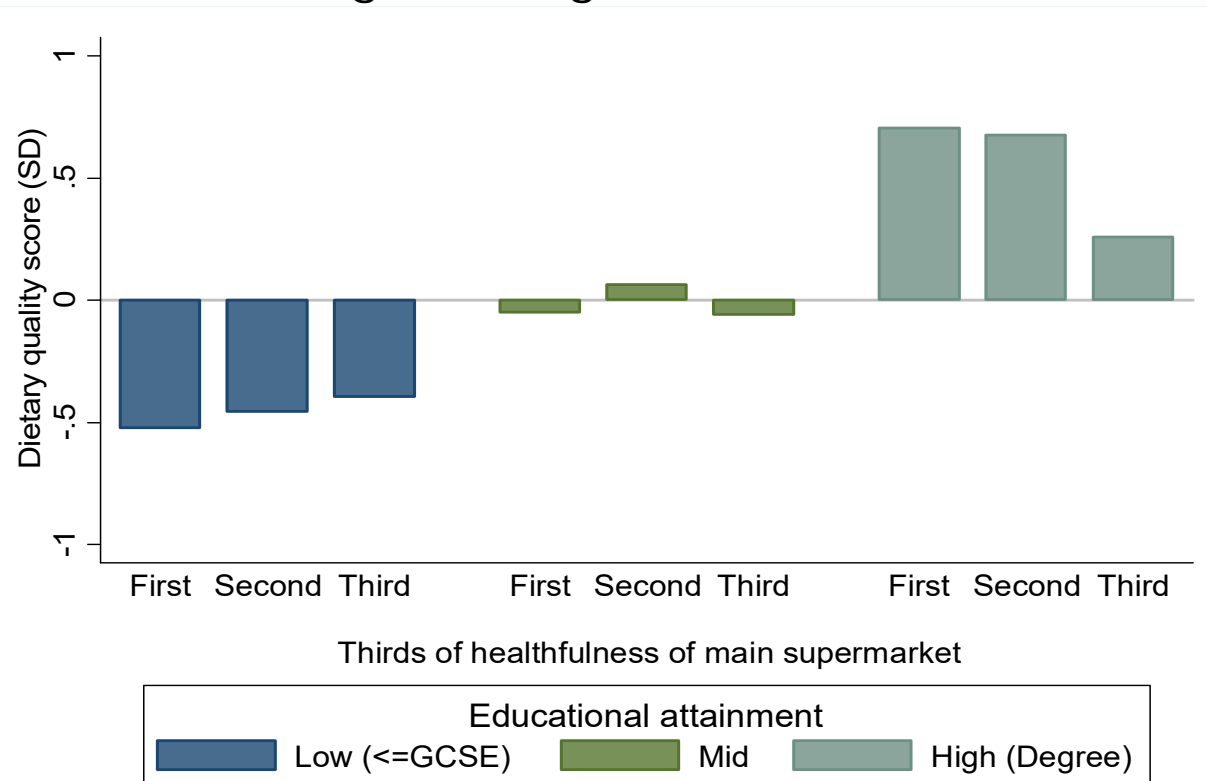


Fruit sold singly



Supermarket environment and diet

- Discount and small supermarkets have poorest in-store environments¹
- Supermarket environments have a stronger influence on the diets of women from disadvantaged backgrounds²

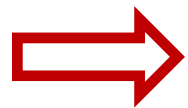


Note: P-value for interaction = 0.006

1 Black, IJBNPA 2014
2 Vogel, AJPM 2016

Food environment & inequalities

- Diet and BMI of individuals with low educational attainment showed greater susceptibility to poorer spatial and supermarket environments
- Good evidence that fast food outlets are more prevalent, and have had greater growth, in more deprived areas
- Local evidence shows fewer varieties and poorer quality of healthy foods in deprived neighbourhoods



support for '**deprivation amplification**' concept

Dual processing model

- Human behaviour, including food choice, result from:
 - Reflective processes – conscious awareness of motivations and actions
 - Automatic processes – impulsive reactions to environmental stimuli

Reflective

Shopping list

Store selection based on cost

Food selection based on health

Automatic

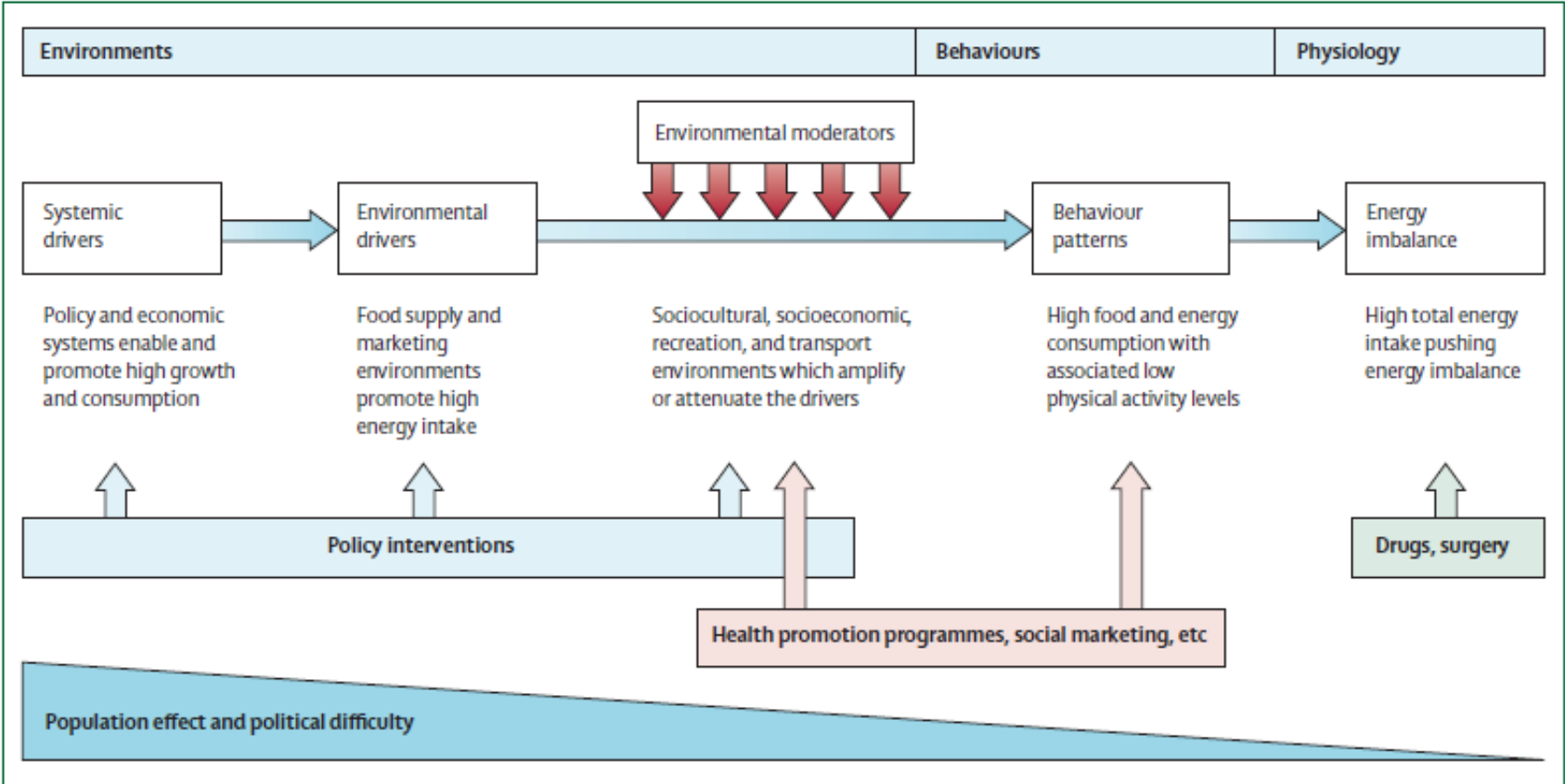
Food selection based on placement

Store selection based proximity

Outlet selection based on abundance



differences in use of these processes may be contributing to dietary inequalities



 Advocate for targeted interventions for high risk groups

“Equality of opportunity is not enough.....”

When some people have to run a 100 metre race with sandbags on their legs, the fact that no one is allowed to have a head start does not make the race fair. Equality of opportunity is absolutely necessary but not sufficient in building a genuinely fair and efficient society.”

Ha-Joon Chang

Local planning opportunities

- Use local planning laws to restrict proliferation of fast food outlets
- Ban fast food outlets around schools – is 400m enough?
- Consider introducing:
 - Restrictions on fast food outlet numbers in areas of high deprivation
 - Incentives for new healthy specialty retailers to open
 - Drinking water fountains in popular public areas

SOUTHERN
Daily Echo

Southampton's unhealthiest road, Above Bar Street, among worst in country



Above Bar Street in Southampton, as seen from the Bargate




Public Health
England


Chartered
Institute of
Environmental
Health


Local
Government
Association

Healthy people, healthy places briefing
**Obesity and the environment:
regulating the growth of fast
food outlets**

In-store intervention evidence



- Moderate evidence across settings (cafeterias, supermarkets) that subsidies on healthy foods increase their purchase and intake^{1, 2}
 - 10% subsidy required to induce change
 - Some evidence that changes are price elastic (higher subsidy, higher intake)
- Good evidence that price increases on unhealthy food improve dietary behaviours³
- Nutrition shelf and trolley prompts can increase healthy food purchases^{3,4}



Nutrition prompts

1 Adam, 2016 BMC Public Health
2 An, 2013 PHN
3 Hartmann-Boyce, AJCN 2018
4 Cameron, Curr Nutr Rep 2016

In-store intervention evidence

- Exposure to larger portion sizes increases quantity of food consumed in children and adults¹
 - Reducing larger-sized food portions or packages could reduce average daily energy consumed



Product placement



Portion size

- Studies in the home, workplaces & cafeterias showed reducing distance to healthy products increased selection²
- Prominent placement of healthy foods and less prominent placement of unhealthy foods in food stores links to healthier purchasing and dietary behaviours³

1 Holland et al, 2015 Cochrane

2 Bucher et al, 2016 BJN

3 Shaw et al, Under review

Local in-store opportunities

- Explore opportunities to:
 - Incorporate healthy in-store activities in Environmental Health & Safety audits
 - Increase the variety and quality of healthy foods in poorer areas
 - Encourage use of shelf prompts to promote healthy foods
 - Place non-food and healthy products in prominent locations (front entrance, checkout, end-of-aisle) and remove unhealthy foods
 - Reduce portion sizes of less healthy foods
 - Subsidise the cost of healthy foods



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