Is the proliferation of takeaway food outlets contributing to unhealthy diet and obesity?

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The Centre for Diet and Activity Research (CEDAR) is focussed on studying the determinants of dietary and PA behaviours; developing and evaluating public health interventions; and helping shape public health practice and policy. We are driven by the overall goal of supporting effective interventions to change diet and physical activity behaviours at the population level.

The Centre is a partnership of several institutions, and is one of five Centres of Excellence in Public health Research funded through the UK Clinical Research Collaboration.

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Of every 100 adults in England...

2 are underweight
36 are a healthy weight
62 are overweight or obese

KEY
- Underweight
- Healthy weight
- Overweight
- Obese
Adult overweight and obesity trends in England

Health Survey for England (2012)
Increased expenditure on food outside the home in the last decade
£28bn

Amount spent on takeaway food annually in Great Britain
£9

Average spending per person per week on food away from home in 2012
1 in 6

Average number of meals now consumed outside the home
Takeaway food and weight

Excess weight gain associated with frequent takeaway food outlet visits over 15 years

4.5 kg

Defining ‘takeaway food’

Foods prepared commercially, which are designed to be consumed outside of the home.
The role of individual choice

- Psychosocial
- Behavioural
- Economic
Food choices are made in context
The ‘obesogenic environment’

“the sum of the influences that the surroundings, opportunities, or conditions of life have on promoting obesity in individual’s or populations”
Food deserts

Populated urban areas where residents do not have access to an affordable and healthy diet

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Wrigley (2002) Urban Studies
Takeaway food outlet proliferation

Evidence for neighbourhood effects

Evidence

- Maddock et al. 2004
- Burgoine et al. 2014
- Boone-Heinonen et al. 2011
- Li et al. 2008
- Burgoine et al. 2014

No Evidence

- Mobley et al. 2006
- Burdette and Whitaker 2004
- Jeffery et al. 2006
- Crawford et al. 2008
- Simmons et al. 2005
- Sharkey et al. 2011
- Lopez 2007
- Stark et al. 2013
- Moore et al. 2009
- Paquet et al. 2010
- Thornton et al. 2009
- Turrell and Giskes 2008
- Reitzel et al. 2010
- Boone-Heinonen et al. 2011

BMI outcome

Diet outcome
Evidence for neighbourhood effects
“The association between [fast] food availability and obesity is not yet fully understood”
Life in the fast food lane
Non-home takeaway food exposure

Participants exposed to:
- 32 takeaway outlets on average
- up to as many as 165 outlets
- majority of outlets at work.
What might a Journey look like?

Takeaway food outlets only

CJ Brown
Greggs
The Cornish Pasty Co.
Millie’s Cookies
McDonalds
Chill Grill

Pizza Hut
Hot & Spice
Parrots Fish Parlour
Perfect Chicken and Ribs
City Kebab
Greggs
Chopstix

The Lido
Roshni Takeaway
Madina Kebab House
Hot Pot Takeaway
Express Burger
Chilli Hut
Desi Restaurant
Chicken Palace
Express Grill
Papa John’s
Zorba
Sunrise
Espirito Da Coisa
Curry & Pizza Hut
Chicken Paradise
Pizza Santano
Bodrum Kebab & Pizza

Eastern Delight
Curry Masters
2 Tasty
UK Fried Chicken & Pizza
Ali’s Kebab House
Asia Restaurant
Balti Hut
Abdullah’s
Chicken Palace
Yummy Fish & Chips
Golden Cod
Alivels
Wongs City
Snappy Pizza
Wei Fung
Wongs Crispy Duck
J & B Fish Bar
Taste of Oriental
Chef Peking
Snappers Family Fish Bar
March Fish and Chips
USA Chicken
Bakers Oven
Royal China
Chilli Hut
Eastern Promise
Leonardo’s Pizzas
Golden Land Fish Bar
March Tandoori
Carlos Pizza
Popeye’s Pizza
Sats Fish Bar
Papa Luigi Dial-a-pizza
Curryland

Kentucky Fried Chicken
China Fountain
Fletton Fish N Chips
Bombay Delight
Top Chef
Jinja Express
Stanground Fish Bar
Star Tandoori
Linford’s Fish & Chips
UK Kebab and Pizza
Beijing House
Friar Tucks
Rainbow City
Happy Valley
Ming Garden
Harbour City
Hassan’s Grill
Moonlight Takeaway
Friar Tucks
Premier Pizza
China Chef
The Fresh Pizza Company
Jade Cottage
Curry Cottage
The Maltings Chinese Takeaway
Feng Wah
Kebabland
Chippy Sues
Silver River
Best Kebab House
Choys Chinese Takeaway

PE12 to PE14, 28.1 miles, 95 takeaways

Google Earth
Evidence for environmental effects

- **Environmental exposure**
  - **Difference in takeaway food consumption (g/day) relative to Q1**
    - Q1
    - Q2
    - Q3
    - Q4
    - +5.7 grams

- **Environmental exposure**
  - **Difference in body mass index relative to Q1**
    - Q1
    - Q2
    - Q3
    - Q4
    - +1.2 units
40g/week
Bobmonk, Harlow, United Kingdom, 1 year ago

Wow, I would never have figured. So you're telling me, people who live closer to takeaways and fast food joints are more likely to eat from there than people who live further away? I don't know how I can cope with this. Get the prime minister to delay all meetings... he needs to hear this... it could have massive repercussions on our society.

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4  0

Gareth McPherson

IT probably won't come as a surprise to many, but Cambridge scientists have found that people surrounded by takeaways eat more junk food and are more likely to be obese than those who are not.

The eating habits of 5,442 adults from Cambridgeshire were studied for a Medical Research Council paper published in the British Medical Journal - and the results may encourage politicians to try and restrict the number of takeaways in certain areas.

The foods we eat at home tend to be healthier than the meals we buy elsewhere, so it makes sense to consider the types of food outlets available to food outlets.

"Our study adds further evidence that today's environment is likely to be influencing how we eat," said Dr McPherson. "The study found that people who live closer to takeaways and fast food joints are more likely to eat from there than those who live further away."

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-1 likes

Turnpike

Funny how many highly-paid "experts" seem to be idiots. I don't get fat because I drive past a fast food joint. I get fat because I choose to go in and eat.

Reply · Share  
570 days ago

banksstuart2, Bristol, United Kingdom, 1 year ago

There are plenty of fast food, takeaway and eat-in restaurants within easy walking distance to where I live, but it would be foolish and idiotic for me to choose to use them because: 1. I can make a hot meal in my own kitchen for £1.50 that includes a hot drink, a healthy hot meal and a dessert, where an equivalent sized meal would cost at least £4 and probably over £5. 2. Eating a cooked meal at home is quicker to make and more convenient to consume.

Click to rate  
1  1
Could n’hoods generate inequalities?

More takeaway outlets in deprived areas

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Rutter (2014) for the Annual Report of the Chief Medical Officer
Takeaway access over time by n’hood SES

Deprivation tertile:
- Low
- Medium
- High

Mean number of takeaway outlets / 10,000 population

Year:
- 1990
- 1992
- 1996
- 2000
- 2004
- 2008

Takeaway consumption varies by SES

![Graph showing the likelihood of consumption (PR) for various less healthy food items, with SE for each category. Some items are indicated with an asterisk (*) suggesting a statistically significant difference from the reference group (most educated).](image)

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Adapted from Miura et al. (2011) Public Health Nutrition
Obesity varies by educational attainment

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Health Survey for England 2012
Obesity varies by household income

[Bar chart showing obesity prevalence by income quintile for men and women, with highest prevalence in the lowest income quintile and lowest in the highest income quintile.]
The role of individual choice

**Low socio-economic status:**
- Greater access to fast food

**Low socio-economic status:**
- Lower levels of nutrition knowledge
- Fewer cooking skills
- Perceive unhealthy foods as being value for money
- Spend less time preparing food at home
- Dislike food consistent with dietary guidelines
Informing evidence-based policy
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Key questions

• How effective will regulating new takeaways be?
• How useful are isolated initiatives?
• Is changing the physical environment enough?
• How will we know? How can we evaluate these initiatives?
Informing evidence-based policy

Restrict the opening of new A5 Hot Food outlets where:

1. Young people congregate
2. Levels of obesity are high
3. Threshold per capita would be exceeded
4. Opening would result in clustering

Others...
“…the planning system is ultimately not a means for the nanny state to regulate the type of food that people eat, nor is it there to pursue some form of inverted snobbery against Big Macs”

- Brandon Lewis MP, Minister of State (Communities and Local Government)
Why the Fast-Food Ban Failed in South L.A.

Obesity rates for residents of South Los Angeles only increased after the city imposed a moratorium on the construction of new fast-food restaurants.

The national discourse about health and obesity has never been a particularly cordial conversation.
Conclusions

- Obesity is a major public health challenge
- Regular takeaway consumption associated with poor diet and weight gain over time
- Neighbourhood exposure to takeaway food outlets associated with greater consumption and body weight
- Takeaways have proliferated (inequitably)
- Inequitable takeaway food outlet exposure may aid understanding of socioeconomic gradient in diet and health
- Could changing neighbourhoods be part of the solution?
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