

# ° School food environments: exploring fast food chain restaurants around post-primary schools in Ireland.

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# Childhood obesity

- 1 in 5 Irish children aged 5-12 years are overweight or obese (IUNA, 2005)
- 19% of 13-17 yr olds are overweight/obese (IUNA, 2008)
- 1 in 4 nine year olds overweight/obese (GUI, 2009)
  - Girls more likely than boys to be overweight (22% vs 16%) and obese (8% vs 6%)
- Children's weight related to social class

# Determinants of obesity

- Obesity is strongly determined by social, cultural and economic factors & physical environment
- Effects of the built environment on food choice/obesity
  - Availability
  - Proximity
  - Food choice

(Morland et al 2002; Layte et al., 2011)  
(Day et al 2011; Timperio et al 2008)

# Food environment & schools

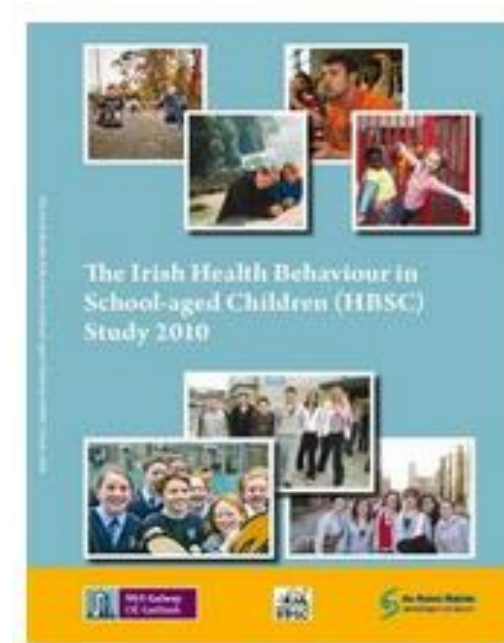
- Food environment around schools
- Nov 2011 - Minister for Children & Youth Affairs – proposed planning regulations controlling the proximity of fast-food businesses to schools

# Aim

- To explore the number of fast food chain restaurants around post-primary schools in Ireland
  - School type
    - Urban/rural
    - DEIS/non-DEIS
  - Area level deprivation

# Food Environment

- School locations
  - HBSC data
- 119 post primary schools
- 9,290 post-primary students – HBSC 2010



# HBSC - background

- A cross-national research study conducted in collaboration with the WHO Regional Office for Europe
- HBSC Ireland 2010 involved more than 16,000 students
- The study aims to gain new insight into, and increase our understanding of young people's health and well-being, health behaviours and their social context

# Children's lives

## SES:

Gender  
Age  
Social  
Class  
Ethnicity



## Contexts:

Family

School

Peers

## Risk behaviours:

Drinking, smoking...

## Health enhancing behaviours:

Physical activity,  
leisure activity...

## Health outcomes:

Well being  
Life satisfaction  
Self rated health

.....



# Food Environment

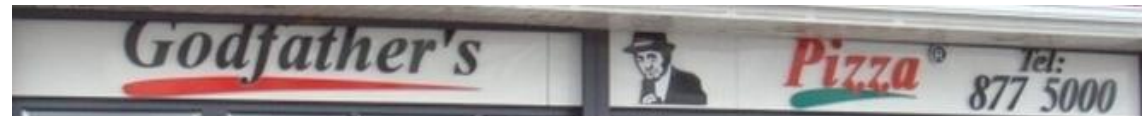


Fast food restaurant - as chain restaurants with 2+:  
expedited food service, takeout business, limited or no  
wait staff, and payment prior to receiving food (Block et al  
2004)

# Food Environment



# Mapping the food environment



# GIS

- Geographic Information System
- Integrates hardware, software and data for capturing, storing, manipulating, analysing, managing, and presenting all types of geographical data

# Mapping the food environment

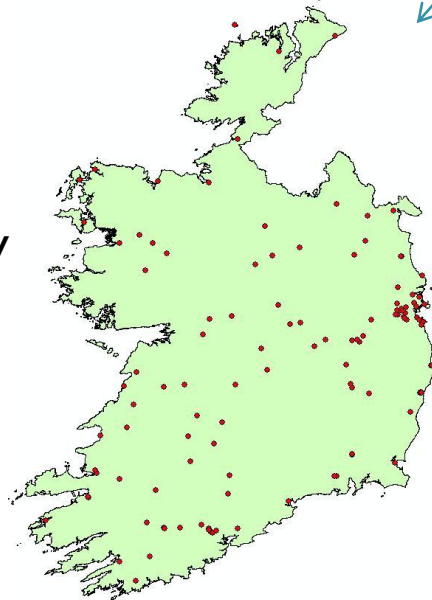
- Geo-coded HBSC post primary schools (n=119)
  - Geodirectory
- 1km and 2km circular buffers created around each of the schools
- All well known fast food restaurant chains were mapped
  - Supermacs, BK, McDonalds...
- Mapped SAHRU deprivation Index scores to ED level
  - (Kelly & Teljeur 2007)





Ireland  
Outline

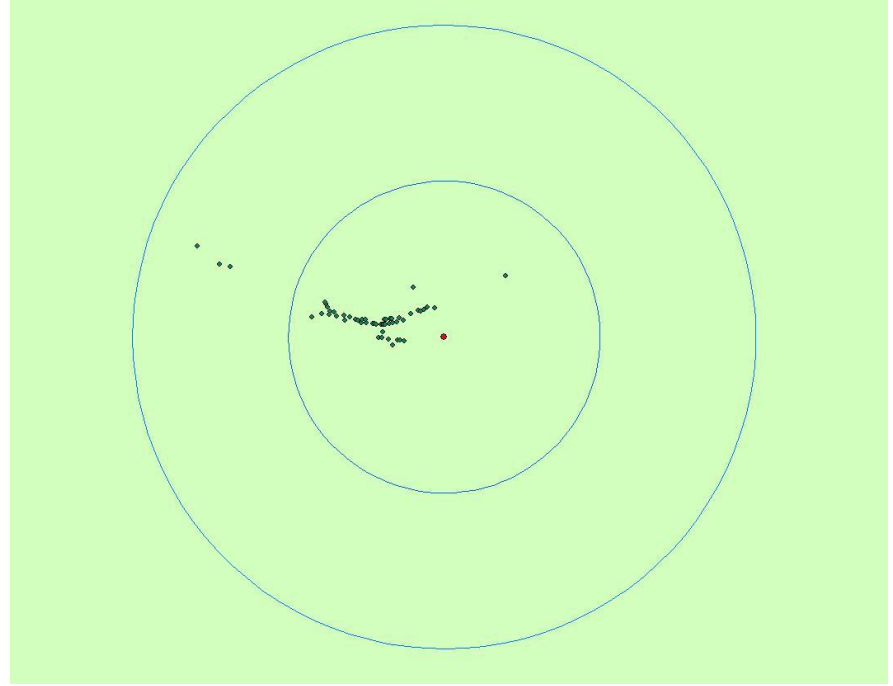
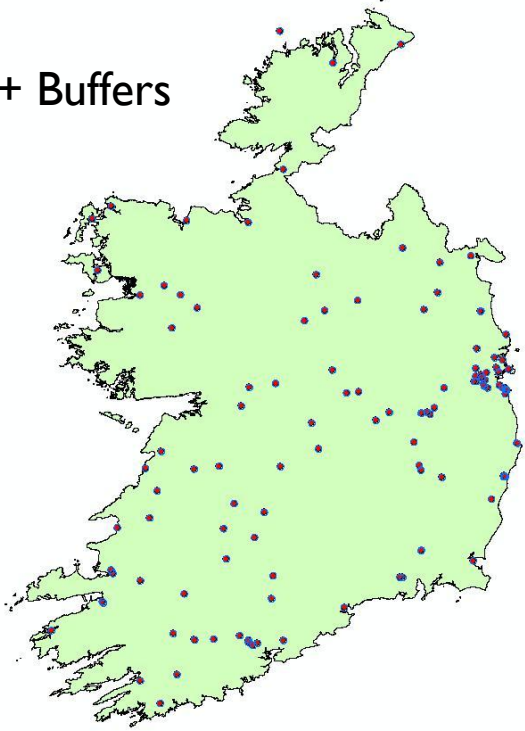
HBSC  
Post-primary  
Schools



ED_ID	ED_NAME	County
6001	Athy East Urban	Kildare
15001	Arklow No. 1 Urban	Wicklow
15001	Arklow No. 1 Urban	Wicklow
11008	Donaghmore	Meath
29067	Balls	Mayo
29034	Ballinrobe	Mayo
4010	Blanchardstown-Coolmine	Fingal
18151	Boherboy	Cork County
19003	Trales Urban	Kerry
19142	Castleisland	Kerry
18260	Midleton Rural	Cork County
18284	Midchelstown	Cork County
12054	Mountheadon	Offaly
9027	Granard Urban	Longford
18214	Maggorney	Cork County
25001	Dungarvan No. 1 Urban	Waterford County
21013	Croom	Limerick County
3008	Clonsilla-Dunawley	Dublin City
4098	Swords-Forrest	Fingal
18003	Fermoy Urban	Cork County
33008	Ballyshannon Urban	Donegal
29062	Moing na BÚ	Mayo
17071	Turners Cross A	Cork City
2071	Kilmore C	Dublin City
3002	Ballyboden	Dublin City
18216	An Slaibh Ríabhach	Cork County
12078	Portlington North	Offaly
20021	Glentworth A	Limerick City
19007	Caher	Kerry
33038	Mh an Chladagh	Donegal
21057	Casperson	Limerick County
27001	Ballinasloe Urban	Galway County
19084	Kilgolin	Kerry
6057	Ballysax East	Kildare
15007	Wicklow Urban	Wicklow
18005	Macroom Urban	Cork County
3008	Clonsilla-Dunawley	Dublin City
5017	Blackrock-Williamstown	Dun Laoghaire-Rathdown
15007	Wicklow Urban	Wicklow
17070	Tramore C	Cork City
18001	Ennis No. 1 Urban	Clare
11001	Ceanannus Múr (Kells) Urban	Meath
6071	Kildare	Kildare
17026	Farranferris C	Cork City

ArcGIS 10

+ Buffers



# Results

No. of fast food chain restaurants	1Km circular buffer % (n)	2Km circular buffer % (n)
0	53.8 (64)	43.7 (52)
1	19.3 (23)	18.5 (22)
2	10.1 (12)	5.0 (6)
3	5.9 (7)	11.8 (14)
4	2.5 (3)	1.7 (2)
5	4.2 (5)	5.0 (6)
6	3.4 (4)	4.2 (5)
7+	0.8 (1)	10.1 (12)

46.2% had 1+ fast food restaurants located within 1km  
56.3% had 1+ fast food restaurants located within 2km



# Results to date

- Access to fast food restaurant chains was greater for urban schools
- No difference between DEIS/non DEIS schools
- Positive correlation between fast food restaurant chains & SAHRU area level deprivation

# Summary

- This data provides a step towards identifying the density and type of food retail environments surrounding schools in Republic of Ireland
- The effects of the school food environment on food choices and obesity risk among children in Ireland has yet to be established.

# Next Steps....

- Ordnance Survey Ireland roads network data
- Link data to HBSC Ireland survey - frequency of consumption of
  - fruit and vegetables
  - chips
  - soft drinks
- Policy implications...?

# Acknowledgements

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- Department of Health
- Department of Children and Youth Affairs

# Contact Us

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# Questions?

