



School food environments and children's dietary behaviours

*Colette Kelly, Mary Callaghan, Saoirse Nic Gabhainn, Michal
Molcho & Audrey Alforque Thomas*

Health Promotion Research Centre,
National University of Ireland, Galway

**A designated WHO Collaborating Centre
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Food environments





Determinants of obesity

- Problem
 - Up to 25% of primary school children and 19% teenagers overweight
(IUNA, '05, '08, '12; Layte & McCrory, 2009; Heinen et al., 2014)
 - Children not meeting dietary recommendations
(HBSC '07, '12; IUNA '05; '08)
- Obesity is strongly determined by individual, social, cultural and economic factors and the **physical/built environment**
 - Children's weight related to social class – even at age 3yrs
(Williams et al., 2013)
 - Availability, proximity, choice
(Morland et al 2002; Layte et al., 2011; Day et al 2011; Timperio et al 2008)



School food environments

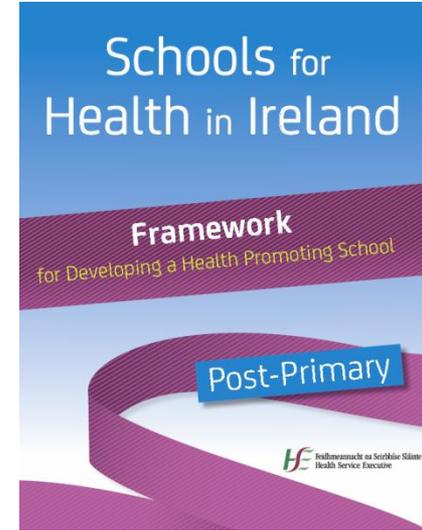
- Surge in literature since 2011 on school food environments
- Mostly cross-sectional studies & most focused in N. America
- Area level indicators are most common
- GIS preferred method to assess exposure
- Outcomes: Body weight, diet, purchases
- Evidence is equivocal (Williams et al 2014).....



School food environments - Ireland

- *External school food environment*
 - The built environment on food choice/obesity
 - Planning regulations (Nov 2011, April 2014....)

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- *Internal school food environment*
 - Health Promoting Schools
 - Vending machines (April 2015)



Aim

- To examine associations between fast food outlets and youth dietary habits





HBSC Ireland – methodology

- Nationally representative sample of school-aged children in the Republic of Ireland
- Consent from schools, parents & children
- Self-completion questionnaire – students and Principals
- Ethical approval from NUI Galway Research Ethics Committee



Dietary habits - children

- How many days a week do you usually eat or drink?.....
 - Fruit
 - Vegetables
 - Sweets (candy or chocolate)
 - Coke or other soft drinks that contain sugar
- **Response options:** Never every day more than once.....



Internal school food environment

- Adapted from HBSC school-level questionnaire
- 5 themes, 25 questions
 - School characteristics, **Nutrition**, PA, Violence/bullying & Neighbourhood
 - Survey monkey or paper-based questionnaires

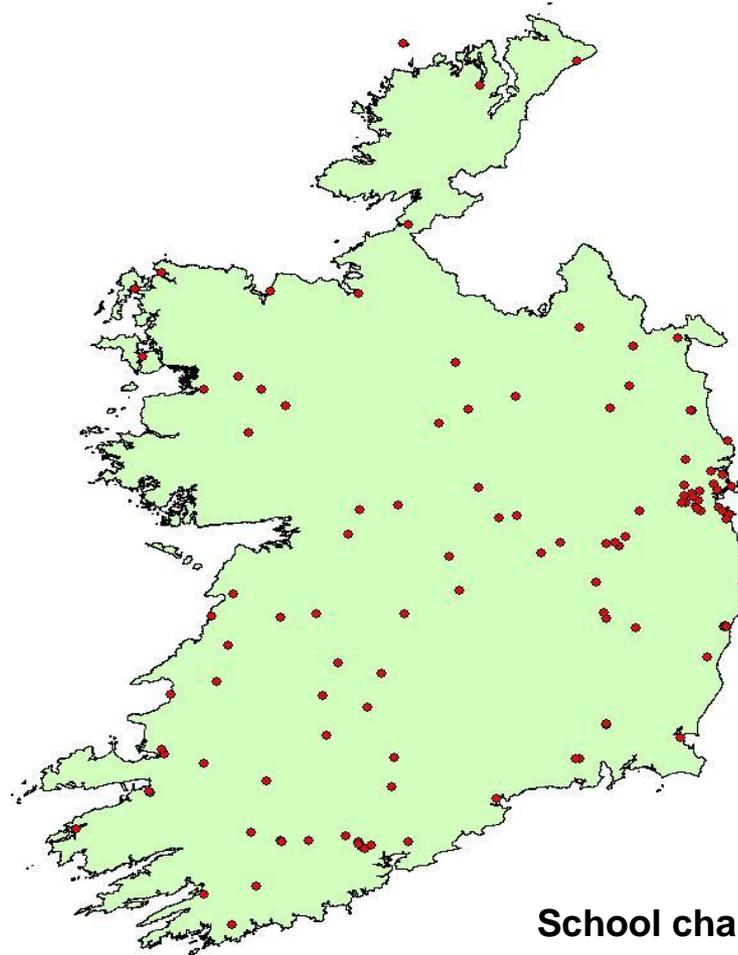
External school food environment





ArcGIS 10

HBSC
Post-primary
Schools



School characteristics

- ▶ Urban 61.9% Rural 38.1%
- ▶ DEIS 20.6% Non DEIS 79.4%
- ▶ Girls 17.5% Boys 22.2% Mixed 60.3%



Descriptive results

- *Student dietary habits* - daily Fruit (33%); Vegetables (42%); Soft drinks (21%); Sweets (38%).
- *External school food*: For 68% of schools, > 10% of food premises within 1km were fast food
- *Internal school food availability*: Fruit (48%); Vegetables (31%); Sweets (55%); Soft drinks (47%)



Associations between fast food environments and diet $n=5,343$

	Fruit daily	Vegetables daily
	Adjusted Odds Ratios	
Food sold in school	0.87	1.05
Rural	0.92	1.04
>10% fast food within 1km	0.78*	0.79**
DEIS schools	0.79*	0.73**

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Controlling for age, gender, social class, family food rules



Associations between fast food environments and diet n=5,343

	Soft drinks daily	Sweets daily
	Adjusted Odds Ratios	
Food sold in school	0.99	0.91
Rural	0.76	0.86
>10% fast food within 1km	1.00	0.94
DEIS schools	1.79***	1.00

*p<0.05; **p<0.01; ***p<0.001

Controlling for age, gender, social class, family food rules



Summary

- Poor dietary habits reported by students
- Consider environments that enable healthy choice
 - At school – opportunity to improve food availability/choice
 - Policies, food available, vending machines
 - Outside school – aim for food environments where the healthy choice is the easy choice



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- *Contact: colette.kelly@nuigalway.ie*

THANK YOU

