



School foodscapes – challenges and opportunities for student health?

Dr Colette Kelly

Kelly, C. & Callaghan, M.
Health Promotion Research Centre,
National University of Ireland, Galway

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Childhood overweight/obesity

- Clear evidence of overweight/obesity among Irish children and teenagers
 - IUNA, 2005; 2008; 2012; Layte & McCrory, 2009; Williams et al., 2013; Heinen et al., 2014.
- Up to 25% of primary school children and 19% of teenagers are overweight/obese
- Children's weight related to social class – even at age 3yrs (Williams et al., 2013)



Determinants of obesity

- Energy imbalance – physical inactivity and poor diet helps to largely explain the obesity epidemic
- A large proportion of children consume energy-dense, nutrient-poor foods & drinks and not enough fruit & vegetables (HBSC 2007, 2012; IUNA 2005; 2008)
- Obesity is strongly determined by individual, social, cultural and economic factors and *physical/built environment*
 - *Availability, proximity, choice*

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

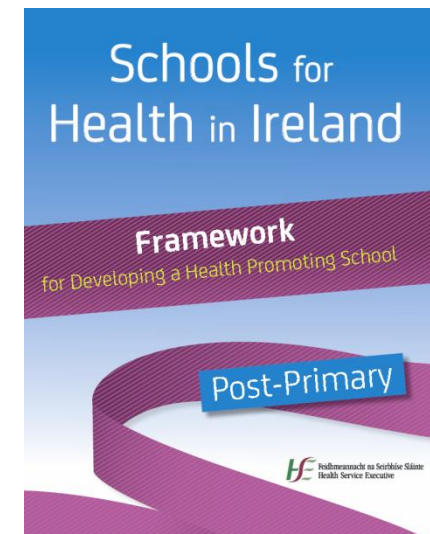


School food environment



- *External school food environment*
 - The built environment on food choice/obesity
 - Planning regulations - “no fry zone” (Nov 2011, April 2014....)

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



Aim

- To characterise the food environment in and around post-primary schools
 - Focus on schools involved in the 2010 HBSC survey in Ireland





External Food Environment



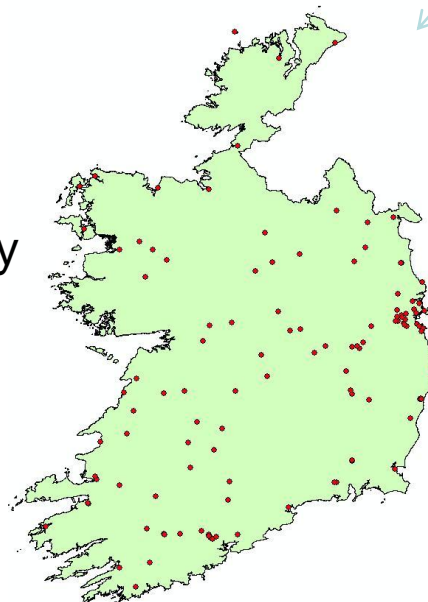


Mapping the food environment

- Geographic information system (GIS)
- Geo-coded HBSC post-primary schools (n=63)
 - Geodirectory
- 1km circular buffers created around each of the schools
- Food businesses were mapped
 - Fast food outlets, local shops, restaurants...



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	Banchardstown-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	Dunganvan 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	Maing na BÚ	Mayo
17071	Turners Cross A	Cork City
2071	Kilmore C	Dublin City
3002	Ballyboden	Dublin City
18216	An Slaibh Rialbhach	Cork County
12078	Portarlinton North	Offaly
20021	Glenworth 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 Múir (Kells) Urban	Meath
6071	Kildare	Kildare
17026	Farranferis C	Cork City

ArcGIS 10



School characteristics

Geography

- Urban 61.9%
- Rural 38.1%

Disadvantage

- DEIS 20.6%
- Non DEIS 79.4%

Gender

- Girls 17.5%
- Boys 22.2%
- Mixed 60.3%



External food environment – 1km

Mean values of food retail businesses within 1km of Irish schools (n=63)

	Mean	Urban/rural status		
		Rural	Urban	P value
Coffee shops and sandwich bars	3.89	1.21	5.54	0.000
Restaurants	3.65	1.33	5.08	0.004
Asian and other 'ethnic' restaurants	2.60	0.79	3.72	0.000
Fast Food outlets	4.03	1.08	5.85	0.000
Supermarkets	1.95	0.83	2.64	0.000
Local Shops	6.71	3.92	8.44	0.001
Fruit and Vegetable shops	0.73	0.13	1.10	0.000



External food environment – 1km

Mean values of food retail businesses within 1km of Irish schools (n=63)

	School gender			
	Girls	Boys	Mixed	P value
Coffee shops and sandwich bars	4.82	6.07	2.82	0.028
Restaurants	3.73	7.86	2.08	0.001
Asian and other 'ethnic' restaurants	4.00	3.86	1.74	0.025
Fast Food outlets	4.91	6.57	2.84	0.088
Supermarkets	3.09	2.43	1.45	0.000
Local Shops	8.09	10.21	5.03	0.003
Fruit and Vegetable shops	1.09	1.36	0.39	0.007



External food environment

- Urban schools had more proximate food premises than rural schools
- 75% of schools had 1+ fast food outlets within 1km of school
- 30% of schools had 5+ fast food outlets within 1km of schools

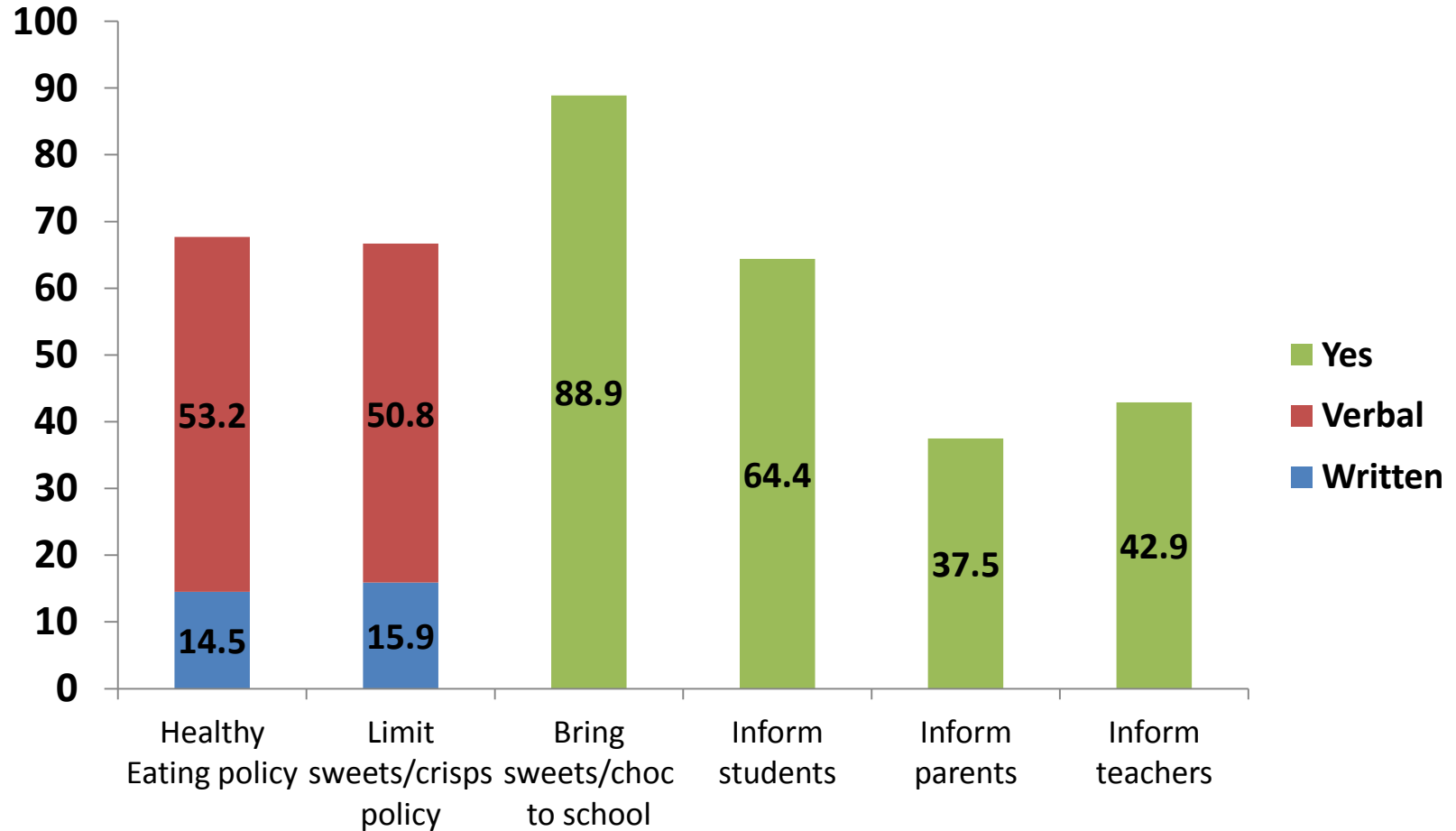


Internal food environment

- 64 out of 119 schools completed questionnaire based on HBSC school level questionnaire
- 5 themes, 25 questions
 - School characteristics, **Nutrition**, Physical Activity, Violence/bullying and Neighbourhood



Food policies & communication to stakeholders (%)



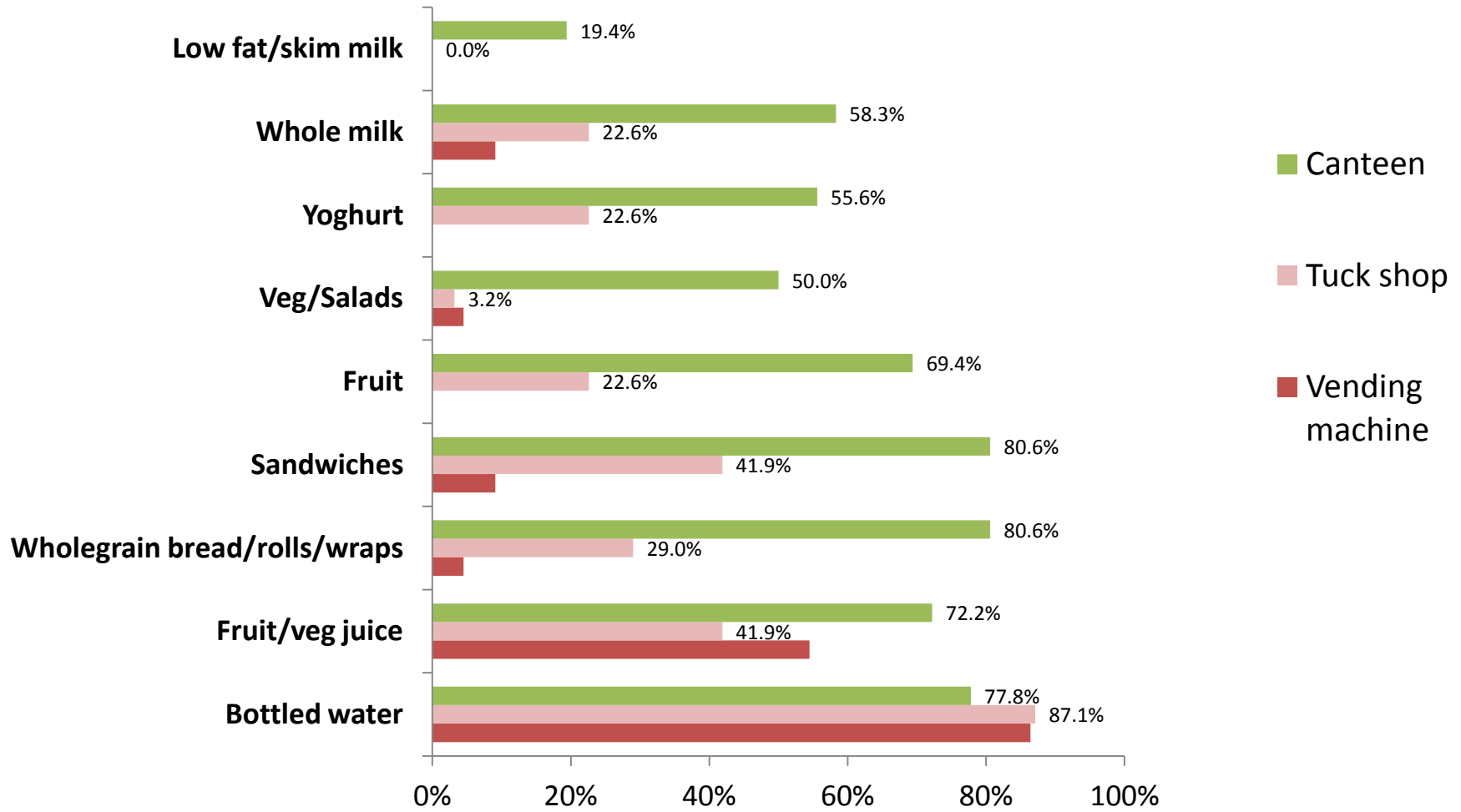


Food service provision in schools

- Canteen: 69.5% schools (n= 41)
- Tuck Shop: 53.4% schools (n= 31)
- Vending machines: 37.7% schools (n=23)

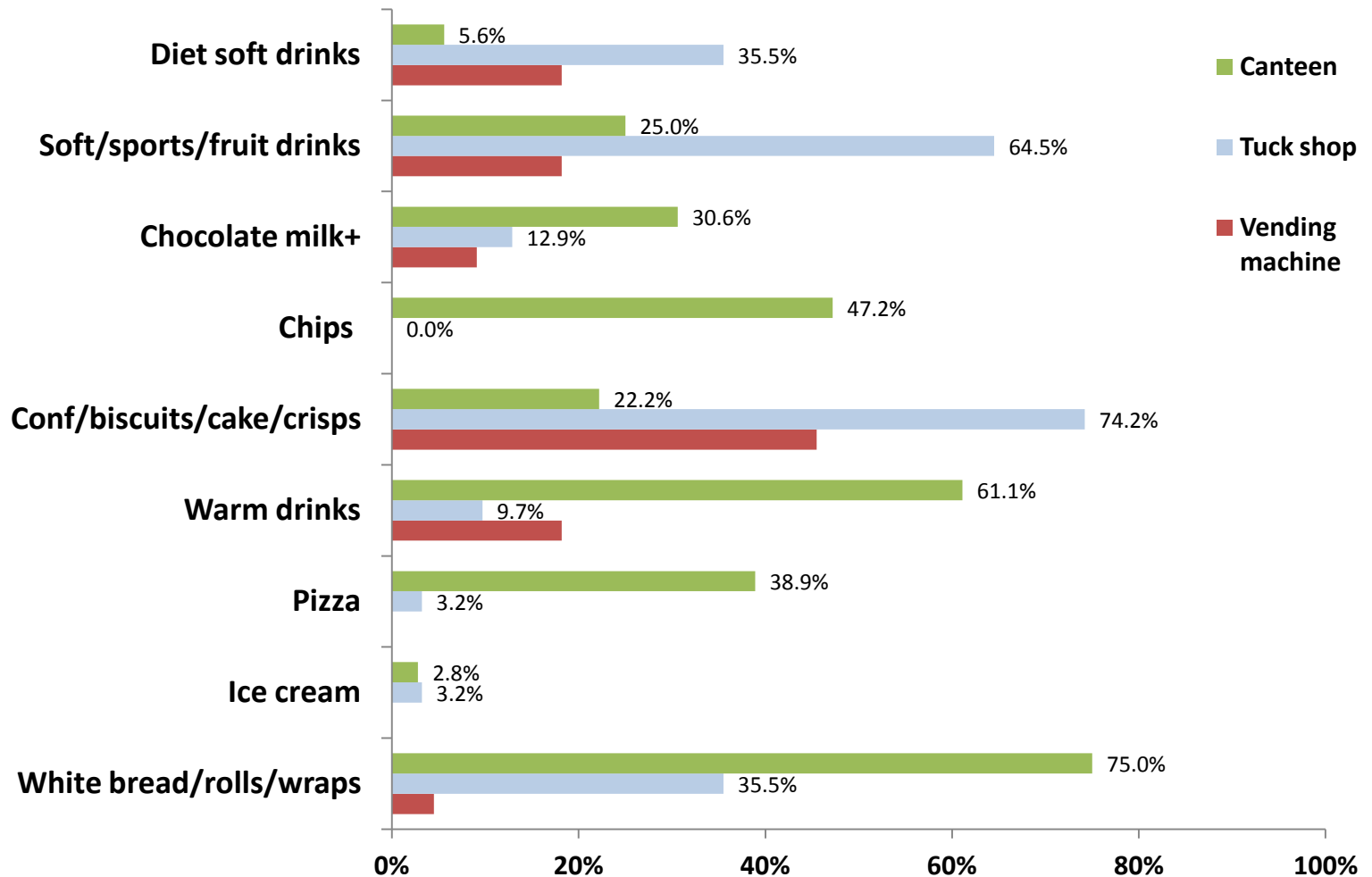


School food provision - healthy





School food provision – unhealthy





Summary

- 75% of post-primary schools had 1+ fast food restaurants within 1 km
- No difference by DEIS status (except restaurants)
- Boys schools & urban schools – greater proportion of food businesses close to schools

- Type of food outlets in schools varies (canteen etc.)
- Quality of food in schools can be improved
- Little or no policing of nutrition policies



What can we do?

- Improve health index of food on offer in schools
 - HPS Framework in Ireland (2011)
 - Vending machines
- Planning regulations for new food businesses
 - Supportive environments for young people?
- Enabling healthy choices is challenging but possible



Which option is preferable in schools?





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Contacts

HBSC Ireland Website: www.nuigalway.ie/hbsc

HBSC International Website: www.hbsc.org

Contact HBSC Ireland: hbsc@nuigalway.ie

[HEPCOM website: www.hepcom.eu](http://www.hepcom.eu)



Thank you

