



How obesogenic is the food environment around Perth schools?

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Where the idea came from...



STEP UP Peer tutoring program volunteer 2004



- Easy availability of ‘junk food’ in the immediate vicinity of schools could:
 - Negate schools’ and parents’ efforts to encourage healthy nutritional practices
 - Undermine the viability of school canteens
 - Create unhealthy habitual behaviours as a result of repeated daily exposure

Unhealthy eating behaviours

4364.0.55.007 - Australian Health Survey: Nutrition First Results - Foods and Nutrients, 2011-12
LATEST ISSUE Released at 11:30 AM (CANBERRA TIME) 09/05/2014 **First Issue**

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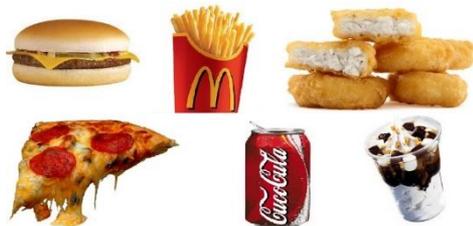
+ Key Findings	
+ Foods Consumed	
+ Energy and Nutrients	
Supplements	
+ Dieting	
Food avoidance due to allergy, intolerance or ethical religious reasons	
Discretionary foods	
Under-reporting	
Soft drink, burgers and chips - the diet of our young males (Media Release)	<p>9 May 2014 MEDIA RELEASE Embargo: 11.30 am (Canberra time) 56/2014</p> <p>Soft drink, burgers and chips - the diet of our youth</p> <p>Teenagers and young adults consume more soft drinks, burgers and chips than any other age group according to a report released today from the Australian Bureau of Statistics (ABS).</p> <p>In the first detailed information on Australia's eating habits available in 15 years, Ms Louise Gates, ABS Director of Health Statistics, said that new results released today from the Australian Health Survey showed 51 per cent of teenage males (aged 14-18 years) and 44 per cent of young adult males (aged 19-30 years) had consumed soft drink on the day prior to interview. This is compared to under 30 per cent for the rest of the population.</p> <p>"These results show that on a typical day in Australia, one in four teenage males consume a burger compared with around only one in 14 for the whole population. One in five males in this age range also consume chips compared with only one in seven across the whole population.</p>
About this Release	
History of Changes	

On any typical day in Australia, half of all teenagers drink soft drink and one quarter consume a burger and/or chips

2014-15 Australian Health Survey Results (5-17 year olds)



5% met vegetable recommendations



38% of total energy intake came from non-core (discretionary) foods

24% of girls



26% of boys

Overweight/Obese

- Optimal nutrition and a healthy body weight during childhood is vital for:
 - overall health and wellbeing
 - physical, psychological and social development
 - academic performance and learning
- Nutrition habits practiced in childhood often persist into adulthood

Improving young people's diets and preventing excess weight gain is a public health priority

Why focus on food environments around schools?

- Strategies to reduce obesity and improve dietary intakes in children:
 - limited success
 - mainly focused on improving nutrition standards within schools
- The food environment immediately surrounding the school grounds also needs to be considered as it can offer:
 - a wider range of food
 - extended shop hours
 - a social gathering space
 - unhealthy food advertising that students exposed to each day whilst travelling to and from school





Children's food purchasing habits around schools

International evidence:

- An open campus policy triples the number of students purchasing lunch from a convenience store or fast food restaurant (*Sturm et al., Neumark-Sztainer et al.*)
- Food stores along the route to school are a major source of calories for children
 - UK ~25% of total daily energy intake (*Sinclair et al*)
 - NZ average spend of \$1 = 360 calories/1506 kj (*Borradile et al*)
 - Canada, 1 in 20 school trips (5%) involves the purchase of unhealthy food (*Sadler et al*)
- Not uncommon for schools to be surrounded by food outlets selling cheap, energy dense foods with disadvantaged areas having greater access
 - Schools with at least one fast food outlet/convenience store within 800m of schools:
US 37%; Ireland 75%; NZ 69% (One school had 85 unhealthy-food outlets per sq km within 800m)
 - Several US and Canadian studies have also demonstrated schools in more disadvantaged areas are surrounded by a higher number of fast food and convenience outlets (*Day et al, Kestens et al*)
- Longitudinal evidence that the number of convenience stores and takeaway food outlets in close proximity to schools have increased in recent years
 - UK: the number of convenience stores within 800m of schools increased significantly between 2001 and 2005
 - NZ: median number of fast-food outlets within 800m of schools increased from 1 to 4 between 1966 and 2006

Children's food purchasing habits around schools

Australia???

All secondary schools in Victoria (n=2343) (Thornton et al, 2014):

- 38% had one of the top 4 fast food chain outlets within 1km
- 13% of secondary schools had at least one within 500m

All schools in Adelaide (n=444) (Coffee et al, 2016):

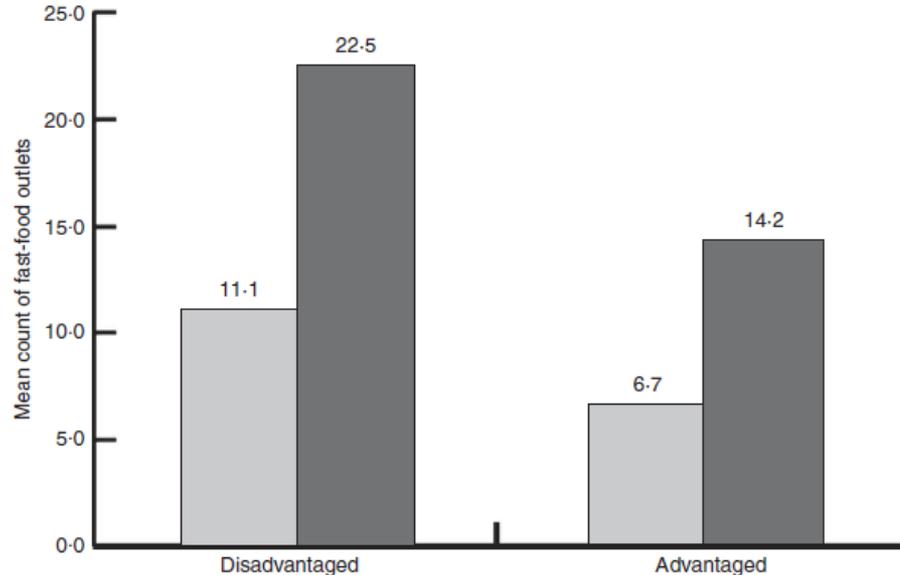


Fig. 3 Mean count of fast-food outlets within 1000 m (□) and 1500 m (■) buffers around schools by disadvantaged/advantaged socio-economic status, metropolitan Adelaide, South Australia, 2013



Is there a problem in Perth??

Fast-food outlets near schools feed obesity fears

JUNE 1 2015 - 11:00PM

DAMON CRONSHAW

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The West Australian

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NEWS > WA NEWS

Call to limit fast food near schools

Angela Powmell | The West Australian
Wednesday, 3 February 2016 4:15AM



New fence surrounding Warnbro Senior High school. Picture: Mogens Johansen



Child health experts have called for controls on the proximity of fast food outlets to schools after it was revealed a Perth school had to erect an \$83,000 metal fence to stop children getting out to buy junk food across the road.

Warnbro Community High School acted after spending \$69,000 last year repairing the previous fence after children cut the wire to visit fast food outlets on the other side of a busy dual carriageway.

The school, which has more than 1000 pupils in Years 8 to 12, also had to close its unviable canteen.

WA School Canteen Association executive officer Megan Neeson said fast food outlets close to schools did have an impact on pupils' diets because they were drawn to cheap meal deals and appealing advertising.

The West Australian



NEWSLETTER ABOUT

CONDITIONS+TREATMENTS FAMILIES+KIDS HEALTHY LIFESTYLE DOCTOR'S BAG VIDEOS



Picture: Mogens Johansen

PRINT EMAIL GOOGLE+ TWEET RECOMMEND

OUT OF BOUNDS

School fences teens in to keep fast food out

ANGELA POWMELL
February 02, 2016

A Perth high school has built an impenetrable metal fence and padlocked gates to stop its students going to nearby fast food outlets.

Warnbro Community High School also had to close its unviable canteen.

The school's new fence cost \$83,000 after children repeatedly cut holes in the old wire one to get out, causing \$69,000 damage last year.

Daily Mail AUSTRALIA

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School forced to build an impenetrable steel fence to stop children breaking out and going to McDONALD'S next door

- High school in Perth builds fence to stop students from getting fast food
- Warnbro Community High School's large new metal fence cost \$83,000
- Students caused \$70,000 of damage to a previous fence by cutting it
- Principal Kya-Louise Graves said people would wreck the fence to get out

perth now Sunday Times

i30 Go \$20,990 drive away

NEWS SPORT ENTERTAINMENT BUSINESS LIFESTYLE VIDEO
BREAKING NEWS WESTERN AUSTRALIA NATIONAL WORLD TECHNOLOGY OPINION WEATHER



Claire Scanlan, her son Raphael (5) and daughter Cosette (2) with the Heart Foundations' Andrea Western and Dr Garry Tester from Sports Challenge Australia outside the Guildford Primary school. Picture: PerthNow, Justin Benson-Cooper

WA News

The Heart Foundation wants fast food no-go zones near schools

Martin Flynn | PerthNow
April 16, 2017 12:00AM

FAST-food "exclusion zones" should be introduced around WA schools to prevent kids from having easy access to junk food, a leading health group

Regulating food outlets around schools

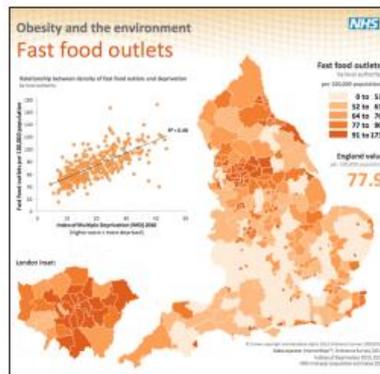
- **United Kingdom**

Local authorities have implemented zoning/licensing restrictions related to unhealthy takeaway food premises near schools

- Barking, Dagenham, Islington, Waltham, Sandwell, St Helen: 400m exclusion zone
- Brighton & Hove: 800m exclusion zone
- Hillingdon: banned ice-cream vans near schools & nurseries
- Newcastle & Halston

- **Ireland**

- Wicklow county has implemented a 'no fry zone' where fast food outlets cannot be built or operate within 400m of schools or playgrounds
- Wexford County Council banned fast food outlets within 200m of schools
- Fingal and Dun Laoghaire councils in Dublin also have restrictions in place



Regulating food outlets around schools

- **South Korea**
 - The Special Act on Children's Dietary Life Safety Management, which includes 200m ban around some schools called "Green Food Zones"
- **Phillipines**
 - Quezon City prohibits the selling and promotion of junk food and soft drinks within a 100m of schools.
- **United States**
 - Concord
 - Massachusetts
 - Detroit
 - Michigan
 - South Los Angeles, California



Can it happen in Australia?

Australian in-depth interviews with senior representatives from local & state government:

What do policy-makers consider to be promising regulatory interventions for creating healthier food environments that would be most supported & could be enacted?

- Over 1/3 of participants suggested:
 - ✓ planning regulations to limit the density of fast food outlets and/or improve access to healthy fresh foods
 - ✓ Restricting advertisements & marketing of unhealthy foods/beverages to children (e.g., billboards, signage), particularly around schools & early childhood settings

Facilitators to policy change:

- ✓ Need to be underpinned by a strong evidence-base (for councils this needs to be local evidence)
- ✓ Proof of efficacy trials
- ✓ Need to make an economic case – cost benefit data
- ✓ Supported by the community



Allender (2009), Allender (2011), Shill (2012)



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Current research program

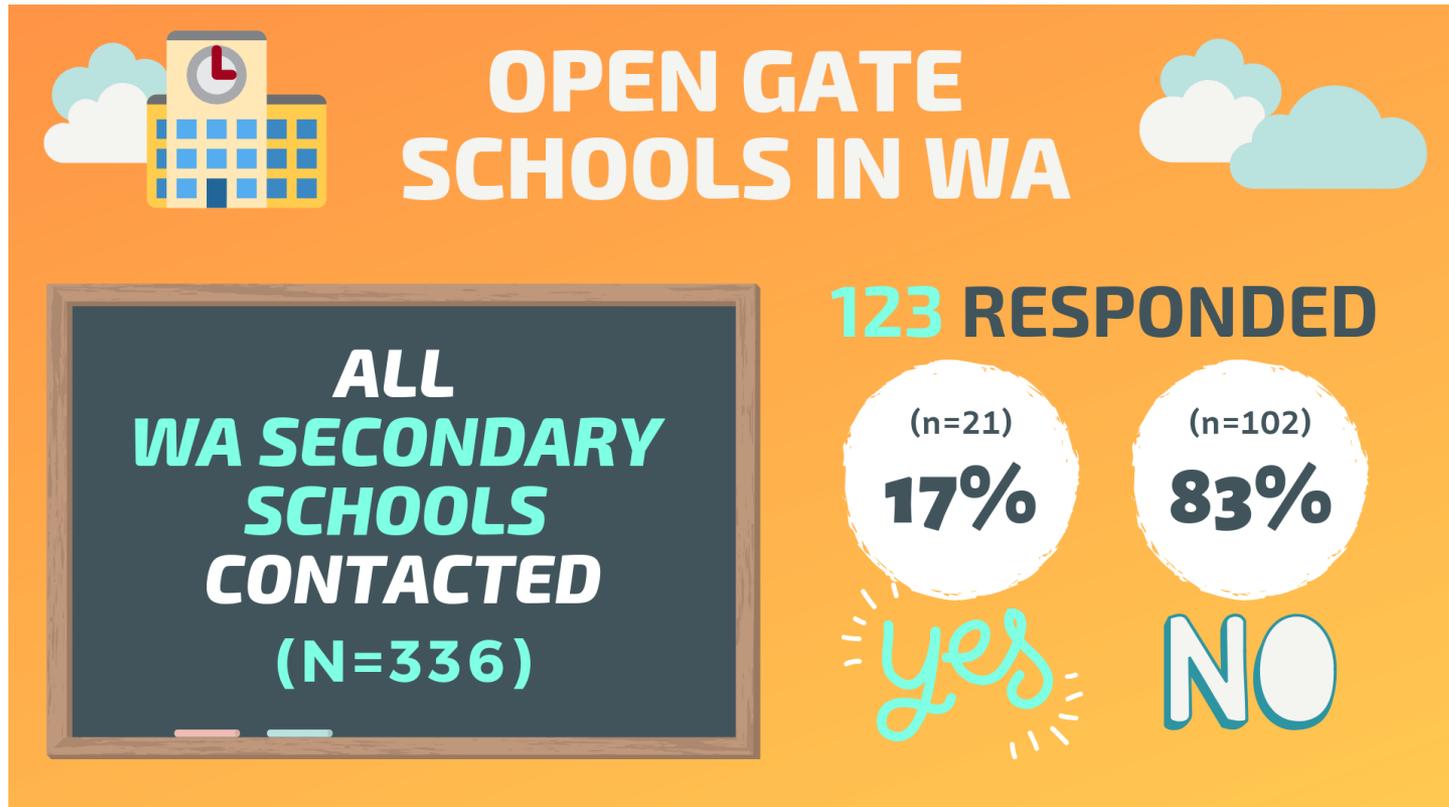
Aims:

1. Determine how many WA secondary schools have an open gate policy and what impact this has on student patronage at nearby food outlets
2. Investigate how many WA secondary students purchase foods from food outlets located near schools and how often
3. Identify the volume & nature of outdoor food advertising around Perth schools
4. Examine the current availability of food outlets around all Perth schools and determine whether disadvantaged schools have greater access to unhealthy food outlets
5. Use findings to formulate recommendations to local governments, urban planners and policy makers about improving the healthfulness of the food environments around Perth schools

✓ 4 studies currently underway



Aim 1: Determine how many WA secondary schools have an open gate policy and what impact this has on student patronage at nearby food outlets



Study: Direct observation of food outlet patronage by school-children, delayed till 2019

Aim 2: Investigate how many WA secondary students purchase foods from food outlets located near schools and how often

Study Methods:

- All students attending 25 randomly selected WA secondary schools were invited to complete an online survey in Term 1 or 2, 2018 as part of the 'Amped Up: an energy drink study'.
- Students were asked, 'How often do you purchase snacks (e.g., soft drinks, energy drinks, cakes/biscuits, chocolate, crisps/chips, hot chips, burgers, sausage rolls, pies) from food outlets located near your school?'

Schools:

- 17 metropolitan & 8 regional participated
- 10 high SES, 15 low SES (ICSEA)
- 20 Government, 5 non-government
- Average student response rate = 24%





Results

Participant Characteristics		Count	%
Sex	Female	2032	55.1%
	Male	1656	44.9%
Grade	Year 7	1023	27.7%
	Year 8	865	23.5%
	Year 9	732	19.8%
	Year 10	605	16.4%
	Year 11	290	7.9%
	Year 12	173	4.7%
Weekly disposable income	Prefer not to say	185	5.0%
	Zero	1243	33.7%
	\$1-10	880	23.9%
	\$11-20	550	14.9%
	\$21-40	295	8.0%
	\$41+	535	14.5%
Family affluence scale	Low affluence	845	22.9%
	middle affluence	1446	39.2%
	high affluence	1397	37.9%
School SES (ICSEA)	High	1854	50.3%
	Low	1834	49.7%
School location	Metro	2849	77.3%
	Regional	839	22.7%





Results

How often do you purchase snacks (e.g., soft drinks, energy drinks, cakes/biscuits, chocolate, crisps/chips, hot chips, burgers, sausage rolls, pies) from food outlets located near your school?

	Frequency (n=3094)	Percent
Never	428	13.8
Rarely or <once/month	677	21.9
2 days/month	237	7.7
3 days/month	345	11.2
1 day/week	475	15.4
2 days/week	290	9.4
3 days/week	241	7.8
4 day/week	122	3.9
5 days/week	89	2.9
6 days/week	45	1.5
Everyday	145	4.7

Monthly or less:
40.8%

Weekly or more:
48.6%

Highlight that the school fringe environment is a frequent source of unhealthy food purchases.
Public health initiatives to restrict unhealthy foods near schools could be a promising strategy!

Aim 3: Identify the volume & nature of outdoor food advertising around Perth schools

Methods:

- INFORMAS Protocol for Monitoring Outdoor Advertising around Child-Serving Institutions, enabling intra- and inter-country comparisons
- 32 primary and 32 secondary schools from 16 LGAs randomly selected within population density and socio-economic strata.
- Area within 500m radius of each school scanned and all outdoor advertisements recorded
- Signage unaccompanied by additional branded product info excluded



Aim 3: Identify the volume & nature of outdoor food advertising around Perth schools

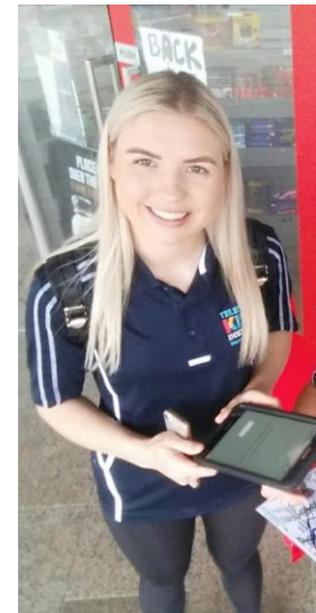
Data collection team:



Smriti Sikri & Benedetta Giuntini
UWA Postgraduate Public Health Practicum students

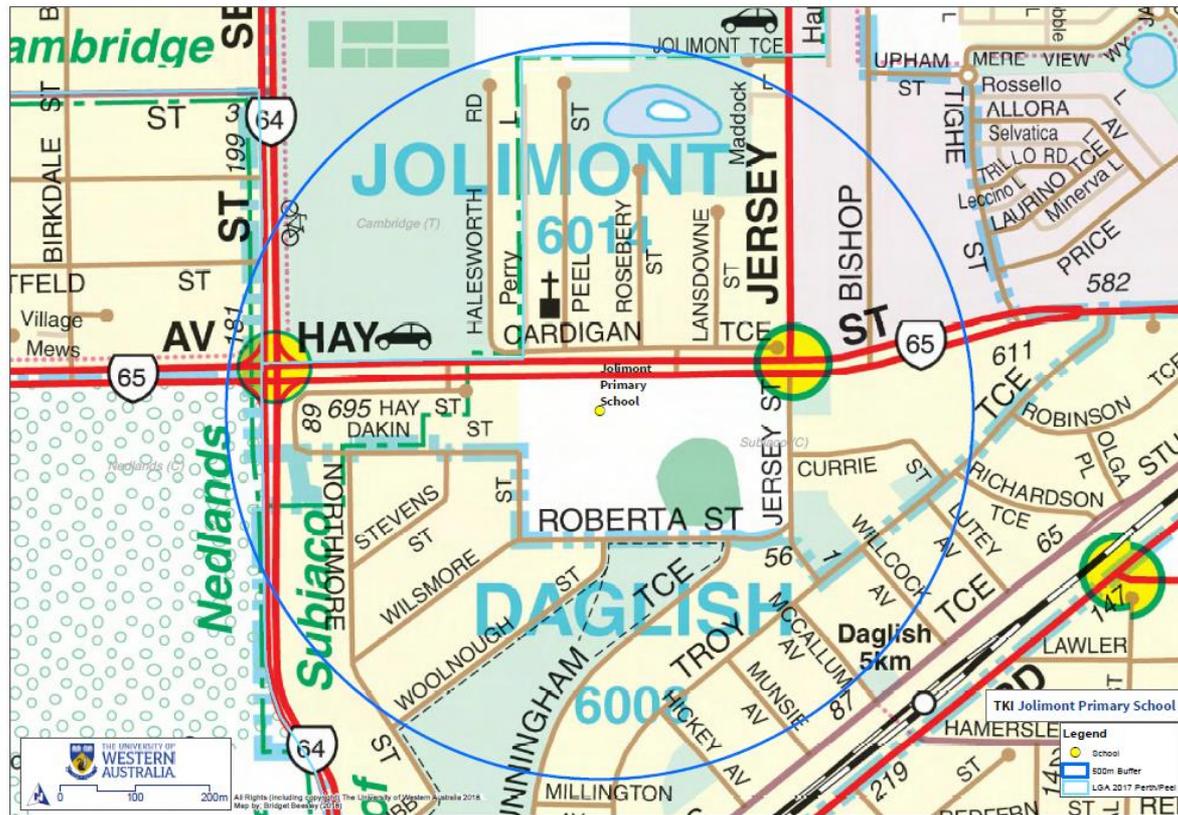


Monica McDonald & Nicole Wickens
ECU Undergraduate Practicum Placement students



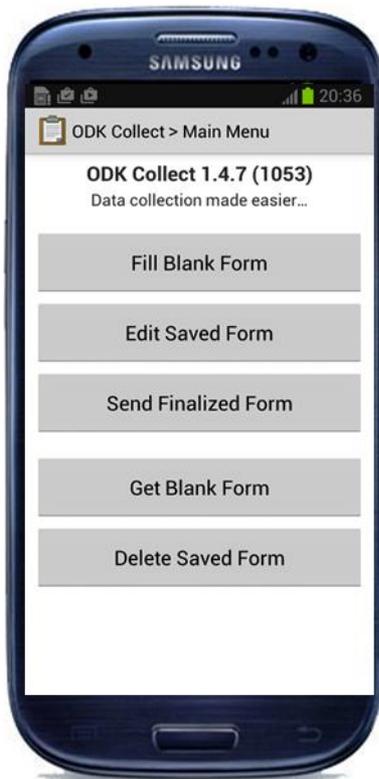
Aim 3: Identify the volume & nature of outdoor food advertising around Perth schools

Navigation maps showing 500m buffer

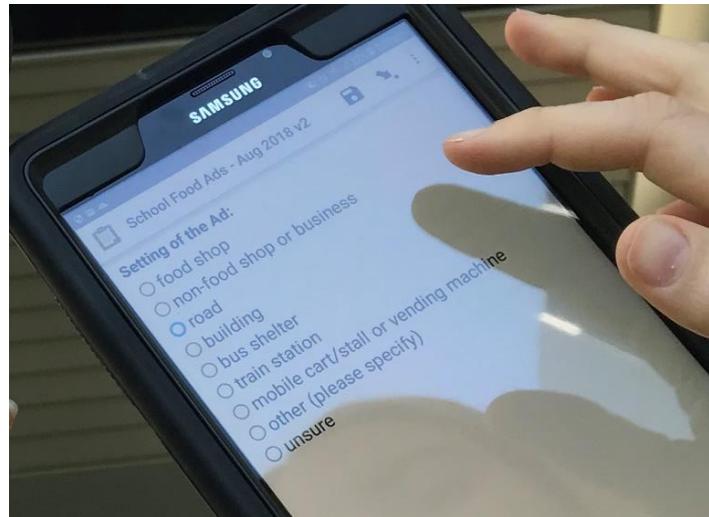


Aim 3: Identify the volume & nature of outdoor food advertising around Perth schools

Samsung tablets with ODK Collect



- Open-access application
- Functionality allows for:
 - ✓ Data entry of each advertisement on-site
 - ✓ Can store up to 5 photo's of each ad
 - ✓ Geotagging of each photograph



Aim 3: Identify the volume & nature of outdoor food advertising around Perth schools

Ads coded into

- non-food product advertisement



- food

core foods

non-core foods



Aim 3: Identify the volume & nature of outdoor food advertising around Perth schools

Ads further coded to capture size

Small (>A4 but <1.3m x 1.9m)



Medium (>1.3m x 1.9m but <2.0m x 2.5m)



– Large (> 2m x 2.5m)



Aim 3: Identify the volume & nature of outdoor food advertising around Perth schools

Ads further coded to capture type

Billboards:



Poster or banners:



Free standing:



Aim 3: Identify the volume & nature of outdoor food advertising around Perth schools

Ads further coded to capture type

Painted building or wall:



Digital/LED:



Store merchandising:



Aim 3: Identify the volume & nature of outdoor food advertising around Perth schools

Ads further coded to capture setting

Food shop:



Non food shop:



Road:



Aim 3: Identify the volume & nature of outdoor food advertising around Perth schools

Ads further coded to capture setting

Building:



Bus shelter:



Train Station:

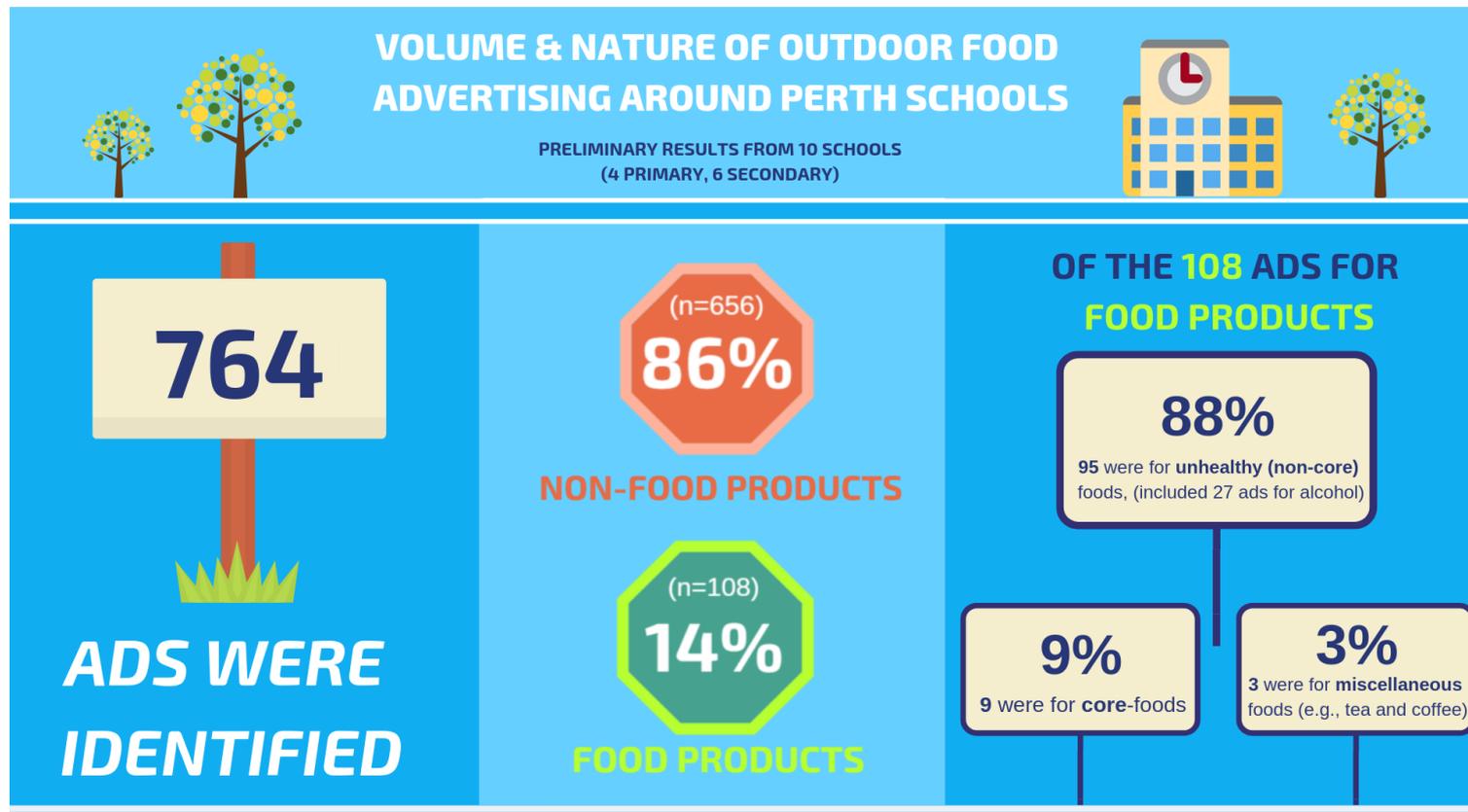


Vending machine:



Aim 3: Identify the volume & nature of outdoor food advertising around Perth schools

Preliminary results – 10 schools (4 primary, 6 secondary):



Aim 3: Identify the volume & nature of outdoor food advertising around Perth schools

Examples of non-core food ads:





FOOTY FINALS

NEW 2 for \$8
Cadbury Family Block 180g - 200g varieties

NEW \$3 ea
Pringles BBQ Sausage & Onion and Sweet Chili & Sour Cream 134g varieties

NEW \$5 ea
Herbert Adams Creamy Chicken & Leek Pie and King Island Beef Pie

TEMPTED?

Thought so.

Big Yum

BRINGING THE FULL FLAVOUR

CRAVING SOMETHING...

RICH & JUICY?

CHERRY RIPE 120g

Cadbury

Nando's
THE KING OF PEPPER CHICKEN

Bacon & egg range

\$12 WITH REGULAR SIDE

*Choice of burger, wrap or pita

'SUPER FOOD' CAN GET STUFFED.

DADA GIUSEPPI'S PIZZERIA

PIZZA PIES

MEGA HEAVY

SNACK SIZE BIG TASTE!

2 PACK

FIND IT IN THE FREEZER.

Available at Woolworths

Aim 3: Identify the volume & nature of outdoor food advertising around Perth schools

Examples of core food ads:





Aim 3: Identify the volume & nature of outdoor food advertising around Perth schools

Further analysis once data collection complete:

Examine the factors associated with advertisements for food products (core and non-core) including:

- ✓ size, type, setting
- ✓ distance from school
- ✓ Local Government Area
- ✓ area-level socio-economic status
- ✓ population density
- ✓ Interaction between area-level socio-economic status and proximity to school

Complete data collection by June 2019





Aim 4: Examine the current availability of food outlets around all Perth schools



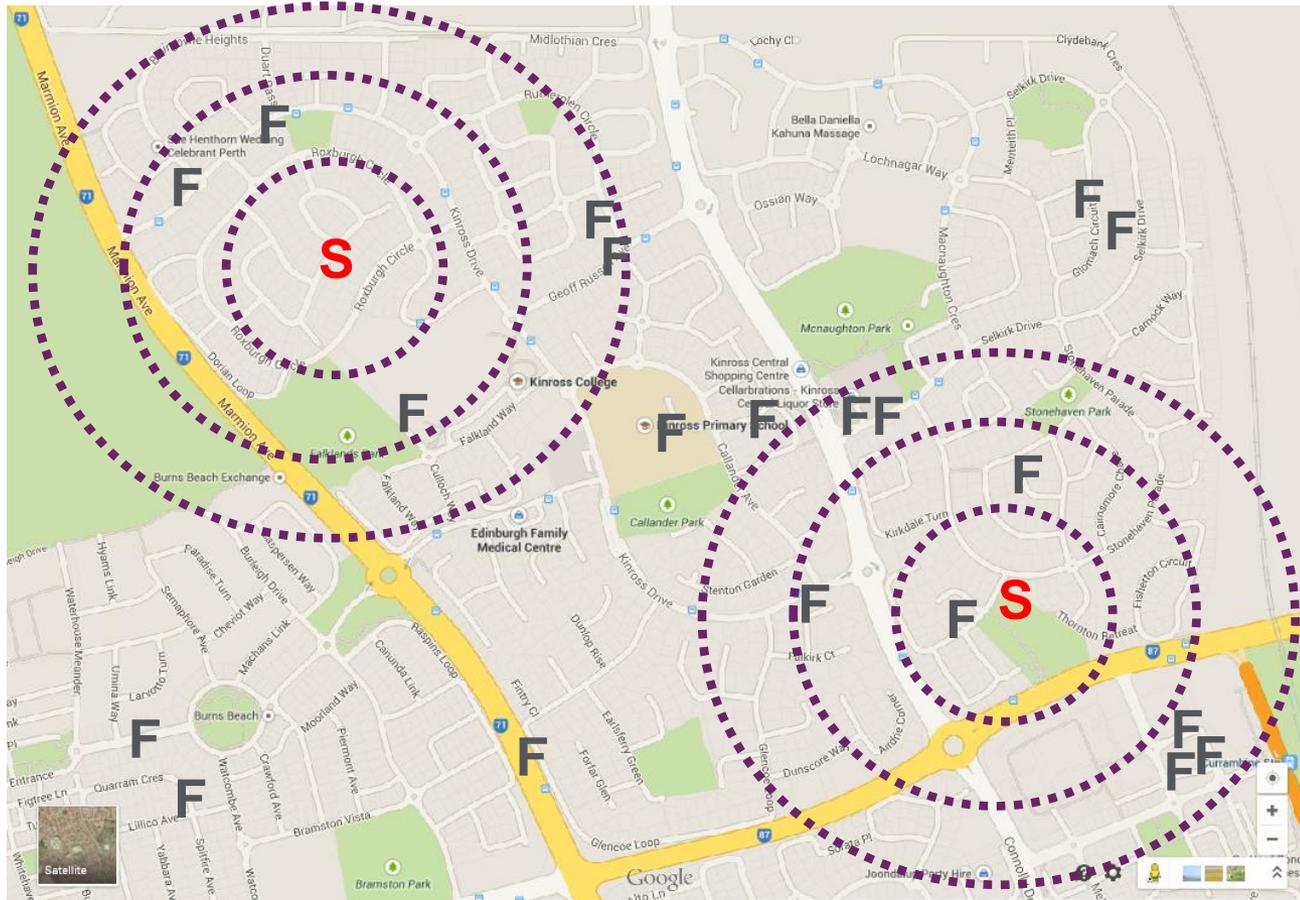
Funded by



Investigators: G Trapp, P Hooper, L Thornton, C Pollard, M Rosenberg, H Christian, S Foster, J Howard
Assoc. Investigators: D Cross, M Cooper, N Foley, A Devine, R Sambell, S Godrich



Aim 4: Examine the current availability of food outlets around all Perth schools

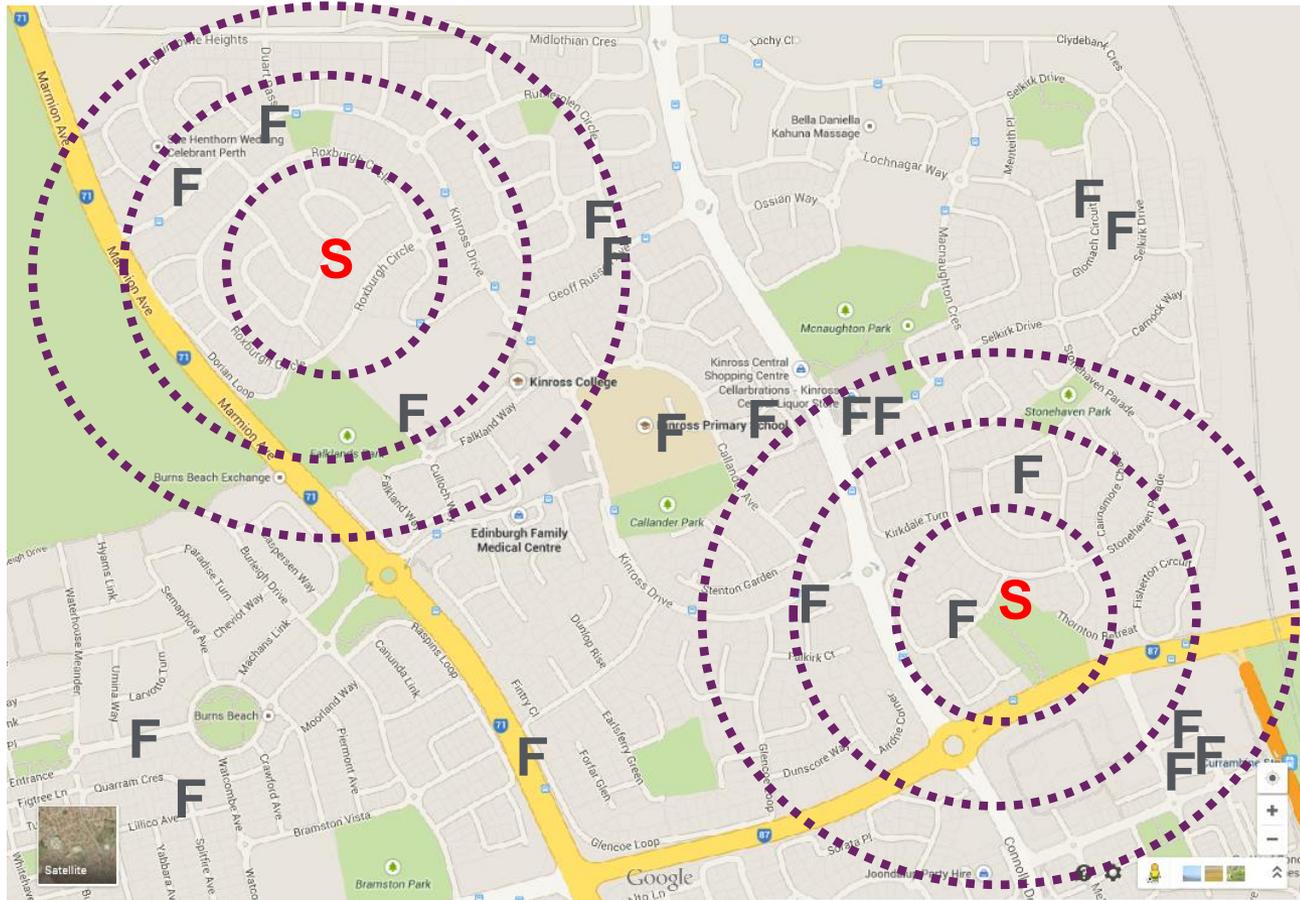


Analysis: type, density, proximity and ratio of unhealthy food outlets to total food outlets located within 400m, 800m and 1600m of all schools (**Objective 1**).

Funded by



Aim 4: Examine the current availability of food outlets around all Perth schools



Funded by



Analysis: investigate whether the availability of healthy and unhealthy food outlets differs by

- school type (e.g., primary versus secondary)
- school-level or area-level socio-economic advantage (**Objective 2**)



Aim 4: Examine the current availability of food outlets around all Perth schools

Activity	Timeframe							
	2018		2019				2020	
	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep
Consult with partner organisations								
Phase One								
Request and retrieve food business listings from Local Governments								
Clean and geocode school address and food business addresses								
Assign food outlet classifications to all food businesses, create food environment measures								
Conduct and analyse the food outlet validation study								
Phase Two								
Analyse data for Objectives 1, 2 and 3								
Phase Three								
Prepare individualised research reports for each Perth metropolitan Local Government								
Manuscript preparation & submission								
Media release & presentations								
Develop info-graphics & fact sheets								



Aim 5: Research translation

Using our findings to improving the healthfulness of the food environments around Perth schools

POLICY-RELEVANT Research

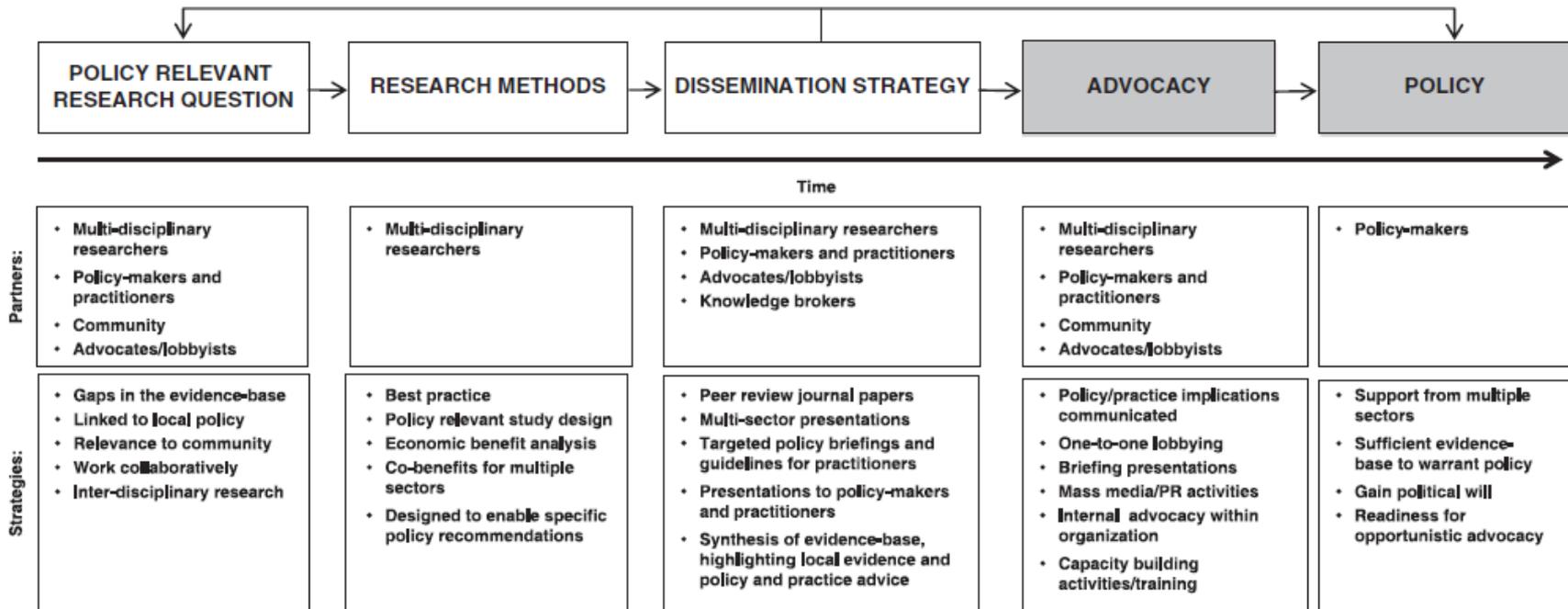


Figure 1. Evidenced-based framework for conducting policy-relevant research including the processes, partners and strategies of policy-relevant research (Giles-Corti, 2015)



Research translation

Team of research partners and collaborators:

WA Health Promoting Schools Association

WA Department of Health

(Chronic Disease Prevention, Public Health Division; Food Unit)

WA Department of Education

The Planning Institute of WA

HASSELL – a multidisciplinary planning/urban design practice

WA Local Government Authority (WALGA)

WA Council of State School Organisations

WA School Canteen Association

PHAIWA

WA Cancer Council

National Heart Foundation (WA Division):

Stakeholder Advisory Committee:

All our research partners are committed and well-placed to advocate, influence and translate the research findings into policy.

Consumer Advisory Committees

consisting of secondary school students, parents and school principals



Pic: Our Consumer Advisory Committee





Research translation

Our key research translation activities include:

- ✓ **Integrating the evidence generated WALGA’s advocacy on Local Public Health Planning and Town Planning Frameworks, as well as providing evidence for their proposed ‘Local Government Town Planning Guideline for Fast Food Outlets’**
- ✓ **Advocating for changes to the Planning and Development Act to add “public health/health promotion” within the deemed provisions.** Public health/health promotion is not included as a relevant planning consideration, meaning this is not given due regard, nor can it be used as assessment criteria for a development applications for a new food outlet
- ✓ **Advocating for changes to the ‘Liveable Neighbourhoods’ policy**
LN currently specifies local and state criteria for schools and commercial land uses within new residential developments
- ✓ **Advocating for the restriction of unhealthy food advertising around schools**
through changes to advertising industry codes and planning guidelines





Research translation

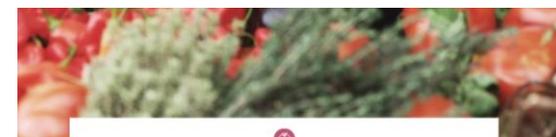
Our key research translation activities include:

- ✓ **Providing Local Governments with an individualised report summarising the food-environment around schools in their area for use in their public health plans**

The data gathered through our research will be ideal for Local Governments when they are setting and reporting on healthy eating objectives and objectives for children.

- ✓ **Informing the National Heart Foundations, ‘Healthy Active By Design (HABD)’ project:** an award winning web portal that includes practical guidance, checklists and case-studies to assist planners, urban designers and related professionals to design health enhancing environments.

<http://www.healthyactivebydesign.com.au/>



The relationship between food, health and modern life can be improved through planning and design and the focus needs to range from the individual to society as a whole. At the local level, it means ensuring healthy food options are available within walking distance of houses, as well as in schools and workplaces. On a broader social level, improving transport and accessibility to healthy food options promotes healthy eating, particularly to the disadvantaged.

Wider again, creating community gardens can help community interaction while promoting mental, physical and environmental aspects. And, finally, safeguarding land for food growing and ensuring efficient transport infrastructure to deliver food must be a consideration of planners and governments.

This section includes a broad range of case studies highlighting the breadth of ways to improve Australia's relationship with and provision of healthy food.





Thank you

For more information:

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