



## **COORDINATED SAMPLING PROJECT 15 - BURGERS**

**Conducted December 2014 to February 2015 with Local Government's across Western Australia**



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**Local Health Authorities Analytical Committee**

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## Executive Summary

The labelling requirement debate has been an ongoing discussion for the Western Australian public for many years, particularly around fast food outlets. Fast food consumption is prevalent amongst Australians of all ages, however particularly so for those in their teenage years. It is of pivotal importance that Western Australian consumers have access to accurate information in order to make informed decisions on their purchases regarding their health. LHAAC's Coordinated Sampling Project (CSP) 15 aimed to assess the nutrition information panel accuracy for burgers across Western Australian food outlets and to compare them to the available food labels.

Samples were submitted by Local Government Authorities from across Western Australia and analysed for their nutritional composition by LHAAC's appointed analysts Agrifood and ChemCentre. An inconsistency was defined as any sample that showed +/-20% variation from the NIP provided by the outlet or manufacturer. Of the 546 tests applied 99 inconsistencies were identified which indicates an 81.9% compliance rate with nutritional information accuracy. However of the 78 samples assessed these 99 inconsistencies indicates a high proportion of inconsistencies per product, with 51% of samples found to contain at least one inconsistency. Furthermore, of all nutrients analysed carbohydrate was the only nutrient found to be consistently above the +20% protocol for consistency.

These findings indicate a high overall degree of compliance with the provision of accurate nutrition information panels which is an encouraging result. However, there remains room for improvement in minimizing the proportion of samples with any inconsistency and in particular lowering the volume of samples with an underestimated value of carbohydrate on the nutrition information panel. It has been shown that consumers rely on this information to make informed purchasing decisions whether it be for disease management or improving health or weight control and ensuring the accuracy of the information panels empowers consumers to make informed decisions.

Local Government Authorities could follow up any non-complying products by contacting the retail outlet, manufacturer or importer of the product and informing them of the non-compliance. Enforcement action could then be initiated by the Local Government if they are not satisfied with the actions taken by the retailer, manufacturer or importer.

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## List of abbreviations

Coordinated Sampling Project (CSP)

Food Standards Australia and New Zealand (FSANZ)

Food Standards Code (FSC)

Local Government Authorities (LGA)

Local Health Authorities Analytical Committee (LHAAC)

## Background

In 2011-12, the Australian Health Survey found that one third of total energy came from discretionary food intake. Less than 4% of Australians met their requirements for servings of vegetables, 10% met their requirements for dairy and only 14% met the requirements for lean meat and alternatives. The proportion of energy derived from discretionary foods appears to be limiting the intake of other food groups and the nutrients these food groups would provide (Australian Bureau of Statistics [ABS], 2016).

Burgers are one form of discretionary item popular in Australia with one in four teenagers in Australia consuming a burger on any typical day, with soft drinks and chips also more prevalent amongst teenagers and young adults (ABS, 2014). Discretionary food consumption is of particular importance due to Australia's chronic disease crisis and the need for effective nutrition and physical activity interventions that coincide with the National Preventative Health Strategy targets (Preventative Health Taskforce, 2009).

In 2011, an expert panel was assembled to independently review Australian and New Zealand food labelling laws and policies. This panel recommended that the energy content of food items on a menu be mandatory to be displayed in close proximity to the food or menu display in chain food service outlets and in vending machines, or that information equivalent to that found on Nutrition Information Panels should be readily available in chain food service outlets (Blewett, Goddard, Pettigrew, Reynolds, & Yeatman, 2011). Following this, many jurisdictions chose to implement their own menu labelling requirements with New South Wales implementing mandatory requirements for menu labelling in chain outlets.

(Wellard, Havill, Hughes, Watson, & Chapman, 2015) found that following the implementation of these requirements there was an increase in the availability of energy values on location but that this information was not available for all menu items. Furthermore, there was actually an observed decrease in the availability of nutrient information beyond energy values compared to a study conducted in 2010 by (Wellard, Havill, Hughes, Watson, & Chapman, 2015). The need for chain stores to provide accurate and readily accessible nutritional information is vital for consumers to make informed food choices in line with the needs of the individual's health status. A combination of public health strategies is needed to effectively impact the current state of chronic disease throughout Western Australia and ensure that West Australian citizens are fully informed before purchasing a fast food item.

## Introduction

LHAAC works in collaboration with LGA's to aid in the upkeep of the FSC throughout Western Australia. One of the ways this is achieved is through CSP's. LHAAC chooses the focus for CSP's based on routine surveillance, response to public trends and evidence of non-compliance. The focus of this CSP is to assess the compliance of burger outlets throughout Western Australia to the FSC Standards for nutrient labelling as per Standard 1.2.8. Specifically, this report will compare the Nutrition Information Panel (NIP) to the analysed levels of nutrients for each food item.

## Methodology

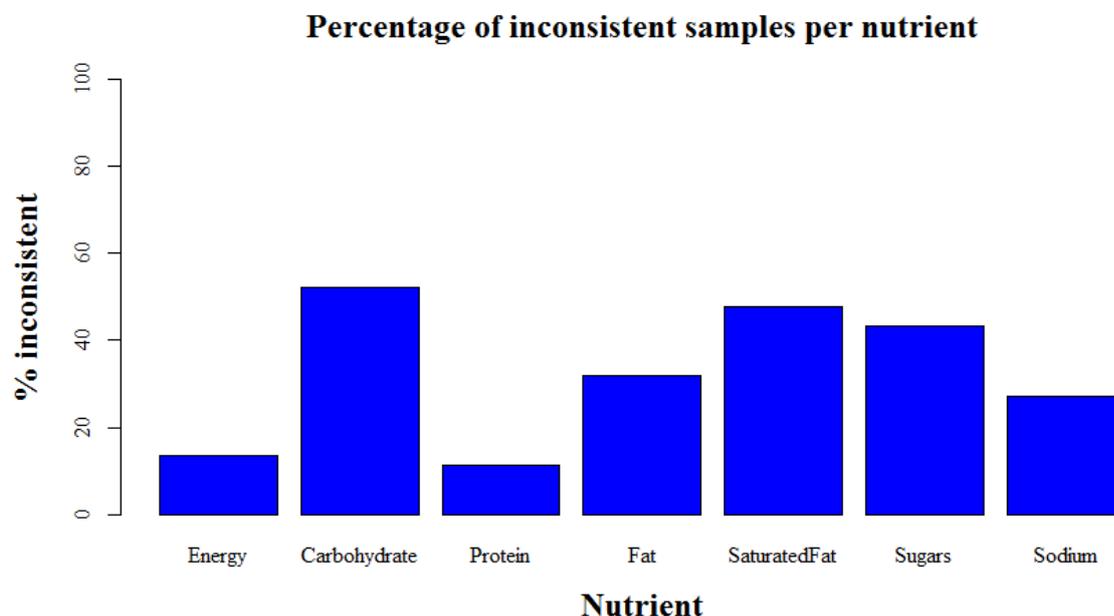
From December 2014 through to February 2015 samples were collected from LGA across Western Australia. Each LGA was provided a range of outlets or franchises from which to take samples (see Appendix A). The minimum sample size recommended was one full burger including the bun, patty and any salads or dressings. The allocation of samples to LGA's was made based on the location of known smaller and larger franchises in order to maximize the variety of samples whilst minimizing any chance of duplicate samples being submitted.

The samples collected were then sent to either Agrifood or ChemCentre for analysis. All samples were analysed for their nutritional composition in comparison to the nutrient information supplied on their NIPs. Any samples that were found to be +/-20% from the stated value on the NIP were flagged as inconsistent.

Any samples that contained missing data points or were lacking NIPs were excluded for analysis beyond the initial categorical analysis of consistent versus inconsistent samples. Of the remaining samples the degree of variation from the value stated in the NIPs will be represented in a box plot.

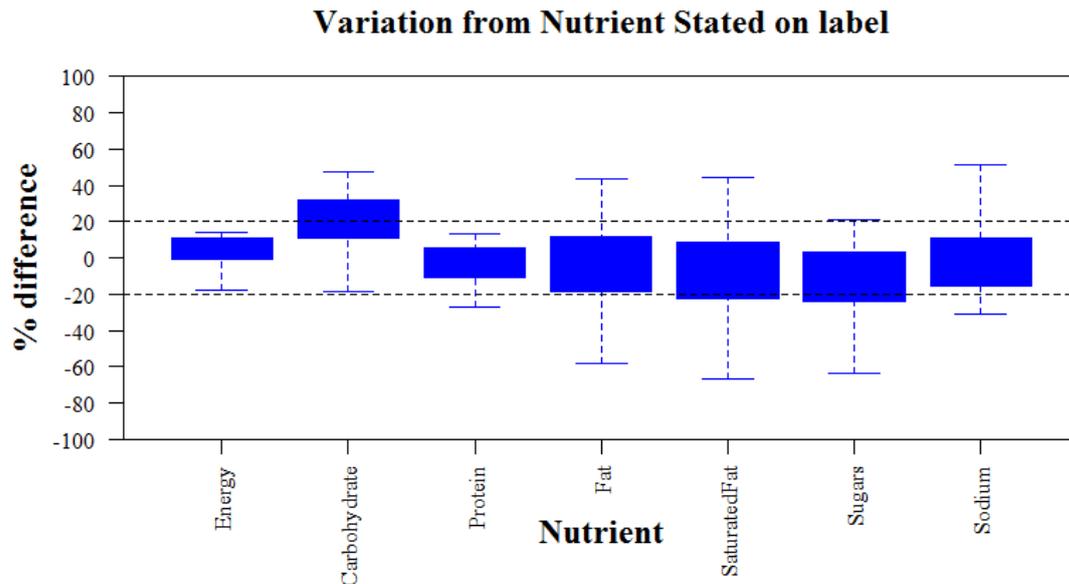
## Results

At the end of the sampling period 78 samples had been submitted for assessment with 44 NIPs available for comparative analysis. Using a +/-20 percent assessment, 88.6% (39 samples) had at least one inconsistency in nutrition information. In total 100 inconsistencies were found with 67.5% compliance for the 308 tests applied. The percentage of inconsistent samples per nutrient shown below in Figure 1.



*Figure 1: Percentage of inconsistent samples per nutrient for all analysed samples*

Analysed sodium, carbohydrate, total fat and saturated fat were found to be inconsistent in greater than 20% of samples.



*Figure 2:* Variation from nutrient value on label by nutrient category. The boxes represent the interquartile range and the heads and tails represent the maximum and minimum values discounting outliers.

44 samples had NIP values available for additional comparison with the analysed values. The above figure shows the amount of deviation from the stated nutrition information (represented by 0 in Figure 3) where available. The interquartile range for energy, protein, fat and sodium values sit entirely within the +/-20% limit set by LHAAC. The interquartile range for carbohydrates sits significantly above this range and for saturated fat and sugar this range sits below. There is quite a large dispersion of data across all nutrients with maximum and minimum values being as much as 50% or more above or below the stated nutritional value. However, overall this figure shows that the majority of tests are conforming to the +/- 20% limit set by LHAAC.

## Discussion

In comparison to previous CSP's (such as CSP 14 Imported Foods) this CSP on burgers nutritional information accuracy found a similarly significant degree of inconsistency. 88.6% of samples displayed at least one inconsistency, however overall only 32.5% of 308 tests conducted during this project were found to be inconsistent. A compliance rate of 67.5% indicates that there is significant room for intervention and it is concerning that at least one nutrient quantity for half of the samples analysed is inconsistent. This will impact consumers who rely on this information to inform their purchasing decisions as shown by (Campos, Doxey, & Hammond, 2011).

As seen in the above box and whisker plot (see Figure 3), the median value for carbohydrates percentage deviation from the value stated on the NIP was greater than 20%. This is a significantly greater carbohydrate value and would potentially impact a consumer relying on this information for the purposes of weight loss or disease management. Positively all other medians fell within the +/-20% range set by LHAAC. Of the interquartile ranges that fell outside the +/-20% limitation, saturated fat and sugar were below this range whilst fat was just on the boundary for below 20% of the nutrient amount stated on the label. It may be less concerning for consumers that there was less of these nutrients in food due to their associations with health (DiNicolantonio, Lucan, & O'Keefe, 2016) than that carbohydrates were significantly above the stated nutrient amount, however this relationship is inconclusive and either positive or negative inconsistencies are still areas of concern. NIP's stating considerably less carbohydrate is of concern for citizens relying on this information for weight and disease management. The wide dispersion of the nutrients in each sample is also of concern with each sample having distinct outliers in maximum and minimum directions that far exceed the value stated on the provided NIP (see Figure 3).

**Strengths and Limitations**

A number of limitations withheld this project. A paucity of literature exists surrounding the nutrition of burgers in Western Australia and the precision of NIPs and the direct effect of these panels on public health. Further research is needed to fully understand the implications of these measures in furthering public interaction with Western Australia's food safety and quality systems.

Improving the size of the sample and NIPs available for analysis would have strengthened this project. Sampling methods could have included a greater degree of randomization in the selection of manufacturers and vendors, and the goods selected for analysis.

## Conclusion

This CSP was successful in analysing a cross section of the current state of burger nutritional information accuracy across Western Australia. Whilst the percentage of inconsistent samples is concerning, and the under-reporting of carbohydrate content in burgers throughout WA needs further investigation, the total number of tests reported as consistent should be encouraging for all WA citizens. The relevant LGAs were informed of inconsistent samples and appropriate action taken to ensure the future compliance of imported food products in WA to the FSC. CSP's are extremely useful for ensuring the continued quality and safety of food and in ensuring that consumers have access to reliable information they can use to make informed decisions regarding their health.

### Suggested action on non-complying products

To help to ensure consistent follow-up action on non-complying products the following actions were recommended:

1. Inform the retail outlet in writing that the relevant product does not comply with the Code.
2. When the manufacturer is based in WA, write to the manufacturer and the Local Government Authority in which the manufacturer is located.
3. In situations where the product is not manufactured in WA, the details of the non-compliance should be sent to the Department of Health who will pass the information to the correct enforcement agency in the State or Territory in which the manufacturer is located under the Home Jurisdiction Rule. A copy of the sample submission sheet and the results of analysis should be submitted to the Department of Health Food Unit with a description and details of the non-compliance.
4. Enforcement action can be initiated by a Local Government if the agency is not satisfied with the actions taken by the retailer and/or manufacturer for a product that does not comply with the Code. Where only the retail outlet is within the local government's area, this enforcement action can only be taken for sale of product that does not comply with the Code.

## References

- Australian Bureau of Statistics (2014). Australian Health Survey: Consumption of Food Groups from the Australian Dietary Guidelines, 2011-12. (Cat. No. 4364.0.55.07). Retrieved from: [http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/4364.0.55.007~2011-12~Media%20Release~Soft%20drink,%20burgers%20and%20chips%20-%20the%20diet%20of%20our%20young%20males%20\(Media%20Release\)~1](http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/4364.0.55.007~2011-12~Media%20Release~Soft%20drink,%20burgers%20and%20chips%20-%20the%20diet%20of%20our%20young%20males%20(Media%20Release)~1)
- Australian Bureau of Statistics (2016). *Australian Health Survey: Consumption of Food Groups from the Australian Dietary Guidelines, 2011-12*. (Cat. No. 4364.0.55.012). Retrieved from: <http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/4364.0.55.012main+features12011-12>
- Blewett, N., Goddard, N., Pettigrew, S., Reynolds, C., & Yeatman, H. (2011). Labelling logic: Review of food labelling law and policy (2011). Canberra: Dept. of Health and Ageing.
- Burger*. (2015). Retrieved from: <http://www.apolloconeyisland.com/images/burger.jpg>
- Campos, S., Doxey, J., & Hammond, D. (2011). Nutrition labels on pre-packaged foods: a systematic review. *Public Health Nutrition*, 14(08), 1496-1506. doi:10.1017/s1368980010003290
- DiNicolantonio, J. J., Lucan, S. C., & O'Keefe, J. H. (2016). The Evidence for Saturated Fat and for Sugar Related to Coronary Heart Disease. *Progress in Cardiovascular Diseases*, 58(5), 464-472. doi:10.1016/j.pcad.2015.11.006
- Preventative Health Taskforce. (2009). National Preventative Health Strategy – Overview.
- Wellard, L., Havill, M., Hughes, C., Watson, W. L., & Chapman, K. (2015). The availability and accessibility of nutrition information in fast food outlets in five states post-menu labelling legislation in New South Wales. *Australian and New Zealand Journal of Public Health*, 39(6), 546-549. doi:10.1111/1753-6405.12428

## Appendix A

### Sampling instructions provided to Local Government Authorities

<b>CSP 15 BURGER SURVEY - SAMPLE ALLOCATIONS</b>		
<b>FRANCHISE/STORE/SHOP</b>	<b>BURGER PRODUCT</b>	<b>LGA TO COLLECT</b>
<b>Chicken Treat</b>	Royal Double Bacon	City of Wanneroo
	Monster Chicken Burger	City of Wanneroo
	Royal Burger	City of Wanneroo
<b>Flipside</b>	Classic Beef	City of Perth
	BBQ Bacon & Cheese	City of Perth
	Blue Train	Town of Cambridge
	Red Hot	Town of Cambridge
	Mini Flip	City of Fremantle
	Taxi C.A.B.	City of Fremantle
<b>Grill'd</b>	Crispy Bacon/Cheese	City of Canning
	Summer Sunset	City of Canning
	Mustard & Pickled	City of Cockburn
	Wild, Wild West	City of Cockburn
<b>Hungry Jacks</b>	Whopper	City of Armadale
	Double Whopper	City of Armadale
	Ultimate Double Whopper	City of Armadale
	Grilled Chicken Cheesy Bacon	City of Armadale
	Tender Crisp Peri Peri	City of Armadale
	Whopper Junior/Cheese	Town of Bassendean
	Angry Whopper	Town of Bassendean

<b>FRANCHISE/STORE/SHOP</b>	<b>BURGER PRODUCT</b>	<b>LGA TO COLLECT</b>
	Veggie Whopper	City of Swan
	Grilled Chicken Classic	City of Swan
	Double BBQ Bacon Stacker	City of Bayswater
	BBQ Cheeseburger	City of Bayswater
	Rodeo Cheeseburger	City of Belmont
	Bacon Double Cheeseburger	City of Belmont
	Bacon Deluxe	City of Belmont
	Chicken Bacon Royale	City of Belmont
<b>Jus Burgers</b>	Original Beef	City of Vincent
	Cheeseburger	City of Vincent
	Pommy Burger	City of Vincent
	Spanish Snag	City of Vincent
	Organic Beef	City of Subiaco
	Wagyu Beef	City of Fremantle
	Mozzarella Chicken	City of Fremantle

## Appendix B

### Raw Data

For further questions or inquiries about raw data contact LHAAC Co-ordinator Trevor Chapman:

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