

Yes, no, maybe — are traffic lights the signal for healthy food choices?

Katherine Given

6th Year Medical Student
School of Medicine
University of Auckland

Katherine is currently a Trainee Intern at The University of Auckland, based at Middlemore Hospital. Some of the things she enjoys doing in her free time include triathlons, tramping, and reading. She's currently attempting to learn some Swahili in preparation for her elective in Arusha, Tanzania, later in the year.

ABSTRACT

In New Zealand there are a number of arguments for the introduction of a traffic light labelling system (TLS) on packaged foodstuffs.¹ If the legislative changes required for the introduction of this type of system were to go ahead, the benefits could be wide-ranging and impact the population as a whole, as well as individuals.¹ This viewpoint will explore the arguments for the introduction of a TLS, as well as acknowledge some of the arguments against this change, and outline several of the potential challenges faced.

BACKGROUND

New Zealand's Ministry of Health states that "in 2012 New Zealand adults ranked third highest out of 15 OECD countries for measures of obesity".² While "in 2010 New Zealand children (aged 5–17 years) ranked third highest out of 40 countries for overweight (including obesity)".² When the impact of these statistics is considered, the results are truly concerning.³ Lal et al. suggests that in 2006 the health care costs that were attributable to an overweight population and obesity were estimated to be NZ\$624m.³ Some of these costs are attributable to the increased risk of developing chronic diseases as a result of being overweight or obese.³ The costs lost due to decreased productivity, primarily caused by the increased morbidity and mortality associated with diseases with a causal relationship to obesity, are significant. In 2006 these were estimated to be between NZ\$98m and NZ\$225m.³

In addition, the prevalence of obesity among Māori and Pacific Island communities was much higher compared to other ethnic groups.¹⁻³ This difference is especially demonstrated with Māori and Pacific infants.^{4,5} There is also a gradient demonstrated in socioeconomic status, with those living in the most deprived areas four times more likely to be extremely obese, compared to those living in the least deprived areas.²

As the rates of overweight and obesity continue to dramatically increase⁶, they will have a widespread impact on the population, and a considerable effect on individuals. It is becoming increasingly important to take action on a population-wide scale.³ The World Health Organisation (WHO)

has highlighted this need for action.⁷ Specifically, WHO has noted the trend of an increasing burden of non-communicable diseases, and the largely modifiable risk factors associated with these.⁷ WHO also notes the increasing trend of the development of Type Two Diabetes Mellitus in younger age-groups. WHO suggests that changes to policy may be one strategy to achieving this – "to encourage the development, strengthening and implementation of global, regional, national and community policies and action plans to improve diets and increase physical activity".⁷

A TLS has been suggested as one tool to help in changing these trends.¹ White and Signal define a TLS as "a system using green, amber and red symbols to indicate the extent to which a food should form part of a healthy diet".¹ Generally, these colours are accompanied by relevant words such as low, medium, and high (e.g. levels of fat), and are placed on the front of packaged foods.¹ In 2014, the National Government in New Zealand introduced a voluntary, star-based food labelling system, alongside Australia.⁸ This system has some significant differences to a TLS, and some researchers suggest it will be much less effective.⁹

A TLS offers more information, which consumers can use to discriminate between products.⁹ Typically four variables are rated using the TLS, whereas the star-rating typically provides only one overall star rating.⁹ A star-based food labelling system tends to frame only positive information within front of package labelling, unlike a TLS.⁹ Maubach et al.'s research demonstrated that a TLS was considerably more effective (than other systems, such as the star-based food rating system, or Daily Intake Guide) at impacting consumer choices when unhealthy food options were offered.⁹ A TLS was demonstrated to be more effective at reducing the impact on consumer choice of persuasive package marketing and advertising, for example, a health claim.⁹

DISCUSSION

First and foremost, a TLS provides a simple tool with a wide scope of use.¹⁰ People who have limited literacy or numeracy skills (who may not be able to analyse the nutritional chart on the back of a package) can use it with relative ease to assess how healthy a particular food is.¹¹

There is a considerable volume of evidence that demonstrates TLS can help people make healthier food choices.¹ Of specific relevance in the New Zealand context, this kind of labelling system is particularly useful in helping to influence the decisions of people from a low socioeconomic background, and those of Māori and Pacific ethnicity, although the authors do not hypothesise as to the possible reasons for this.¹ This is of particular importance as Māori and Pacific are at increased risk of developing obesity and diet-related diseases, such as Type Two Diabetes Mellitus.¹

Fifteen of the twenty-two articles included within White and Signal's analysis indicated support for the introduction a TLS, while four articles were not considered supportive.¹ A number of the studies demonstrated study participants were "better able to identify healthier food options using traffic light labelling than when using other systems".¹ From their 2012 study, Mclean, Hoek and Hedderley concluded that a TLS could still help people to make healthier decisions, even when products displayed nutritional claims.¹¹ In conjunction with this argument White and Signal suggest the introduction of a compulsory TLS could lead to a self-fulfilling prophecy, whereby food manufacturers are encouraged to change their processes, as well as consider reformulating their products, in order to obtain a healthier TLS label and therefore reinforcing the benefits of the introduction of a TLS.¹

Developing on from the idea that a TLS can help many individuals to make healthier eating choices, the widespread use of a TLS could result in significant changes for the health of the population as a whole. The Australian model formulated by Sacks et al. suggested a TLS could result in a reduction of weight per person of 1.3 kg on average, and save 45,100 Disability-adjusted life years (DALYs).¹² However, the authors demonstrated that other policy interventions such as a "junk food" tax could also be effective.¹² The implementation of a TLS could have a significant long-term impact as children are encouraged to learn to make healthier choices, therefore improving the health of the population further over time.¹³

As well as bringing improvements in health for the population, there is also a strong argument that the introduction of a TLS will have economic benefits. The cost savings obtained from a TLS, by and large, out-weigh the costs of introduction.¹² For example, in Sacks et al.'s model there was a cost saving of AUD\$455m to the economy.¹² However, there are certainly gaps in this data. For example, the Australian Assessing Cost-Effectiveness (ACE) in Obesity study did not complete a cost-effectiveness analysis on a TLS, as the researchers considered there was a lack of demonstrated effectiveness.¹⁴ Also, Mernagh, Paech, and Weston's report prepared for the Health Research Council of New Zealand did not include a TLS for comparison in their evaluation.¹⁵ Some of the alternative strategies evaluated for cost effectiveness included General Health Screening, Green Prescription, School Nutrition Policy Initiative (SNPI) and Switch-Play, of which Switch-Play, an initiative focused on encouraging physical activity within a school setting, was found to be most cost effective.¹⁵

As a result of the significant amount of research completed in this area, numerous bodies have voiced their support for a TLS system. In their 2014 policy document "Tackling Obesity" one of the ten recommendations the New Zealand Medical Association made is the introduction of a TLS system.¹³ The Royal Australian College of Physicians has an established policy statement recommending the implementation of a TLS.¹⁶ The Auckland-based Clinical Trials Research Unit published a position statement supporting the use of a front of package TLS.¹⁷ New Zealand's Food Regulation Ministerial Forum's 2011 report supported the introduction of a TLS.¹ In the US in 2010 the White House Childhood Obesity Task Force "identified the need to improve front-of-package nutrition labels".¹⁸ In the UK, a TLS system has already been introduced for particular packaged foods.¹⁹

One of the important arguments against the use of a TLS is that it can be seen as a paternalistic policy which reduces people's ability to make decisions of their own accord.²⁰ Traditionally, food choices have been seen as within the domain of personal responsibility.²¹ Tony Blair, the former British prime-minister, stated, when commenting on obesity, "our public health problems are not, strictly speaking, public health questions at all. They are questions of individual lifestyle".²¹ However, Magnusson goes on to counter this

argument and state that personal responsibility and motivation alone are unlikely to be useful in bringing widespread population level improvements in health, and population health approaches which alter the environment in which individuals make choices are required.²¹

White and Signal's analysis largely suggested that a TLS was better able to help consumers identify healthier food options, compared with other systems, such as a Daily Intake Guide System (introduced by the food manufacturing industry) or Guideline Daily Amount system.¹ Roberto et al. agreed.¹⁸ In addition, a 2010 Australian study suggested there were significant benefits over alternative strategies directly targeting individual diet and exercise behaviours.¹² However, there was not an absolute consensus in White and Signal's analysis, and the authors could not conclude that a TLS system was more effective than all possible systems for this purpose.¹ In New Zealand, the introduction of the voluntary star-based system in 2014⁸, reduces the likelihood of the government and industry agreeing to introduce a TLS. However, some researchers suggest that further research could validate a traffic-light coloured star-based system.⁹

A significant challenge of implementation is the opposition from the vast majority of food manufacturers. White and Signal suggest that support from the food manufacturing industry would be vital in further research, pilot studies, or the implementation of a TLS.¹ The majority of stakeholders in the food industry are strongly opposed to the introduction of a TLS²¹, maintaining this position despite the introduction of the voluntary star-based system. Their reasons for opposition are primarily focused on the potential loss of revenue, secondary to an encouraged change in dietary habits and therefore possible changes in the pattern of purchasing.²¹

Another challenge in the introduction of a TLS is how to ensure that there is adequate consumer awareness that such a system exists and how best to use it.²² In their 2014 study on food choices, in a fast food context, Dodds et al., found that a TLS alone, without appropriate consumer engagement had no impact in reducing the energy intake from their hypothetical menu.²² Therefore, the authors suggested that it was necessary to ensure that a TLS was introduced in a way which increases consumer awareness of, and support for, the new change in labelling.²²

CONCLUSION

In conclusion, although there are significant challenges to overcome, traffic light foodstuff labelling has many potential benefits to offer to the New Zealand population, over and above, star-based labelling.¹ Although academics in the relevant fields are largely in agreement that traffic light labelling should be implemented, these policies would need to garner further support from the government. In addition, to gain traction, there would need to be significant changes in the position of the majority of stakeholders in the food manufacturing industry.¹ However, with increased public awareness, and continued lobbying, there is still potential for this important public health initiative to come to fruition.

REFERENCES

1. White J, Signal L.
Submissions to the Australian and New Zealand Review of Food Labelling Law and Policy support traffic light nutrition labelling.
Aust N Z J Public Health 2012; 36(5): 446-451.
2. Ministry of Health.
Understanding Excess Body Weight: New Zealand Health Survey.
Available at <http://www.health.govt.nz/publication/understanding-excess-body-weight-new-zealand-health-survey>. 2015. Accessed on 20th June, 2015.
3. Lal A, Moodie M, Ashton T et al.
Health care and lost productivity costs of overweight and obesity in New Zealand.
Aust N Z J Public Health 2012; 36(6): 550-556.
4. Howe L, Ellison-Loschman L, Pearce N et al.
Ethnic differences in risk factors for obesity in New Zealand infants.
J Epidemiol Community Health 2015; 69(6): 516-522.
5. Teevale T.
Obesity in Pacific adolescents: a socio-cultural study in Auckland, New Zealand [dissertation].
Auckland: The University of Auckland, 2009.
6. Ng M, Fleming T, Robinson M et al.
Global, regional, and national prevalence of overweight and obesity in children and adults during 1980–2013: a systematic analysis for the Global Burden of Disease Study 2013.
The Lancet 2014; 384(9945): 766-781.
7. World Health Organization.
Global Strategy on Diet, Physical Activity and Health.
Available at http://www.who.int/dietphysicalactivity/strategy/eb11344/strategy_english_web.pdf. 2004. Accessed on 19th June, 2015.
8. Kaye N.
NZ adopts new healthy food labelling system.
Available at <http://www.nutritionfoundation.org.nz/news-and-hot-topics/hot-topics/10562-NZ-adopts-new-healthy-food-labelling-system>. 2014. Accessed 10th June, 2015.
9. Maubach N, Hoek J, Mather D.
Interpretive front-of-pack nutrition labels. Comparing competing recommendations.
Appetite 2014; 82: 67-77.
10. Hieke S, Wilczynski P.
Colour Me In – an empirical study on consumer responses to the traffic light signposting system in nutrition labelling.
Public Health Nutr 2012; 15(5): 773-782.
11. Mclean R, Hoek J, Hedderley D.
Effects of alternative label formats on choice of high- and low-sodium products in a New Zealand population sample.
Public Health Nutr 2012; 15(5): 783-791.
12. Sacks G, Veerman J, Moodie M et al.
‘Traffic-light’ nutrition labelling and ‘junk-food’ tax: a modelled comparison of cost-effectiveness for obesity prevention.
Int J Obes 2010; 35(7): 1001-1009.
13. New Zealand Medical Association.
Tackling Obesity.
Available at https://www.nzma.org.nz/__data/assets/pdf_file/0015/32082/NZMA-Policy-Briefing-2014_Tackling-Obesity.pdf. 2014. Accessed 15th June, 2015.
14. Vos T, Carter R, Barendregt J et al.
Assessing Cost-Effectiveness in Prevention (ACE– Prevention): Final Report.
Available at: https://public-health.uq.edu.au/filething/get/1836/ACE-Prevention_final_report.pdf. 2010. Accessed 24th May, 2016.
15. Mernagh P, Paech D, Weston A.
Cost effectiveness report of public health interventions to prevent obesity.
Available at <http://www.victoria.ac.nz/sog/researchcentres/health-services-research-centre/docs/downloads/CE-Obesity-Prevention-Full-Report-publish.pdf>. 2010. Accessed 8th June, 2015.
16. Royal Australian College of Physicians.
Mandatory Front-of-Pack “Traffic Light Labelling” on Food and Beverages A Policy Position Statement by the Royal Australasian College of Physicians.
Available at [http://www.foodlabellingreview.gov.au/internet/foodlabelling/submissions.nsf/lookupsubmissionattachments/1atan-85jvsb20100518094116dml0/\\$file/448a.pdf](http://www.foodlabellingreview.gov.au/internet/foodlabelling/submissions.nsf/lookupsubmissionattachments/1atan-85jvsb20100518094116dml0/$file/448a.pdf). 2009. Accessed 21st June, 2015.
17. Clinical Trials Research Unit.
Position statement Front-of-Pack nutrition labels.
Available at <https://nihi.auckland.ac.nz/sites/nihi.auckland.ac.nz/files/pdf/position/CTRU%20position%20statement%20FOP%20labelling.pdf>. 2012. Accessed 21st June, 2015.
18. Roberto C, Bragg M, Schwartz M et al.
Facts Up Front Versus Traffic Light Food Labels.
Am J Prev Med 2012; 43(2): 134-141.
19. National Health Service.
Food Labels.
Available at <http://www.nhs.uk/Livewell/Goodfood/Pages/food-labelling.aspx>. 2013. Accessed 21st June, 2015.
20. Van Kleef E, Dagevos H.
The Growing Role of Front-of-Pack Nutrition Profile Labelling: A Consumer Perspective on Key Issues and Controversies.
Crit Rev Food Sci Nutr 2015; 55(3): 291-303.
21. Magnusson R.
Obesity prevention and personal responsibility: the case of front-of-pack food labelling in Australia.
ABMC Public Health 2010; 10: 662-674.
22. Dodds P, Wolfenden L, Chapman K et al.
The effect of energy and traffic light labelling on parent and child fast food selection: a randomised controlled trial.
Appetite 2014; 73: 23-30.

WANT TO SEE YOUR NAME IN PRINT?

The New Zealand Medical Student Journal is written and edited by medical students from all four clinical schools in New Zealand.

Email us at: nzmsj@nzmsj.com for more information.

NZMSJ

New Zealand Medical Student Journal
Te Hautaka o ngaa Akongaa Rongoaa