

# New Graphic Warnings Improve Knowledge of Smoking Harms Among Smokers

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## Background

In 2008, New Zealand (NZ) replaced text-only warnings on tobacco packaging with graphic health warnings (GHWs). Given evidence that on-pack warnings communicate health information effectively [1], we examined how the new GHWs affected smokers' knowledge of smoking-related harms by ethnicity and deprivation level.

## Methods

The NZ arm of the International Tobacco Control Policy Evaluation Project (ITC Project) uses as its sampling frame the NZ Health Survey (a representative national sample with boosted sampling of Māori, the indigenous people of NZ). Wave 1 respondents (n=1376) had been exposed to text-based warnings while those in wave 2 (n=923) had been exposed to GHWs. In the phone surveys, respondents were asked whether they believe smoking causes a specific list of health problems, which were either featured in the text-based warnings or in the GHWs (See Image 1 for GHWs). Only those who participated in both survey waves were included in this analysis to maximise comparability between waves. Further details of the methods are available in online reports [2].

## Results

At wave 2, smokers' knowledge of the smoking-related harms included only in the new GHWs (and which were not in the text-only ones) increased significantly (Figure 1). However, the increases for mouth/throat cancer were modest. Changes in knowledge of the smoking-related harms included only in the older text-only warnings were non-significant.

The increased knowledge levels for the health information featured in the GHWs did not vary significantly by ethnicity (Figure 2) and deprivation (data not shown).

At wave 2, the relationship between ethnicity and knowledge levels for the smoking-related harms included only in the GHWs was less clear, while Māori smokers had higher knowledge levels for harms included in the text-only warnings (Figure 2). The overall knowledge levels at wave 2 were similar for the least and the most

deprived four population deciles using the small area deprivation index: NZDep2006 (data not shown).

Figure 1. Knowledge of smoking-related diseases, wave 1 (text-warnings only) and wave 2 (ie, after the new GHWs were introduced)

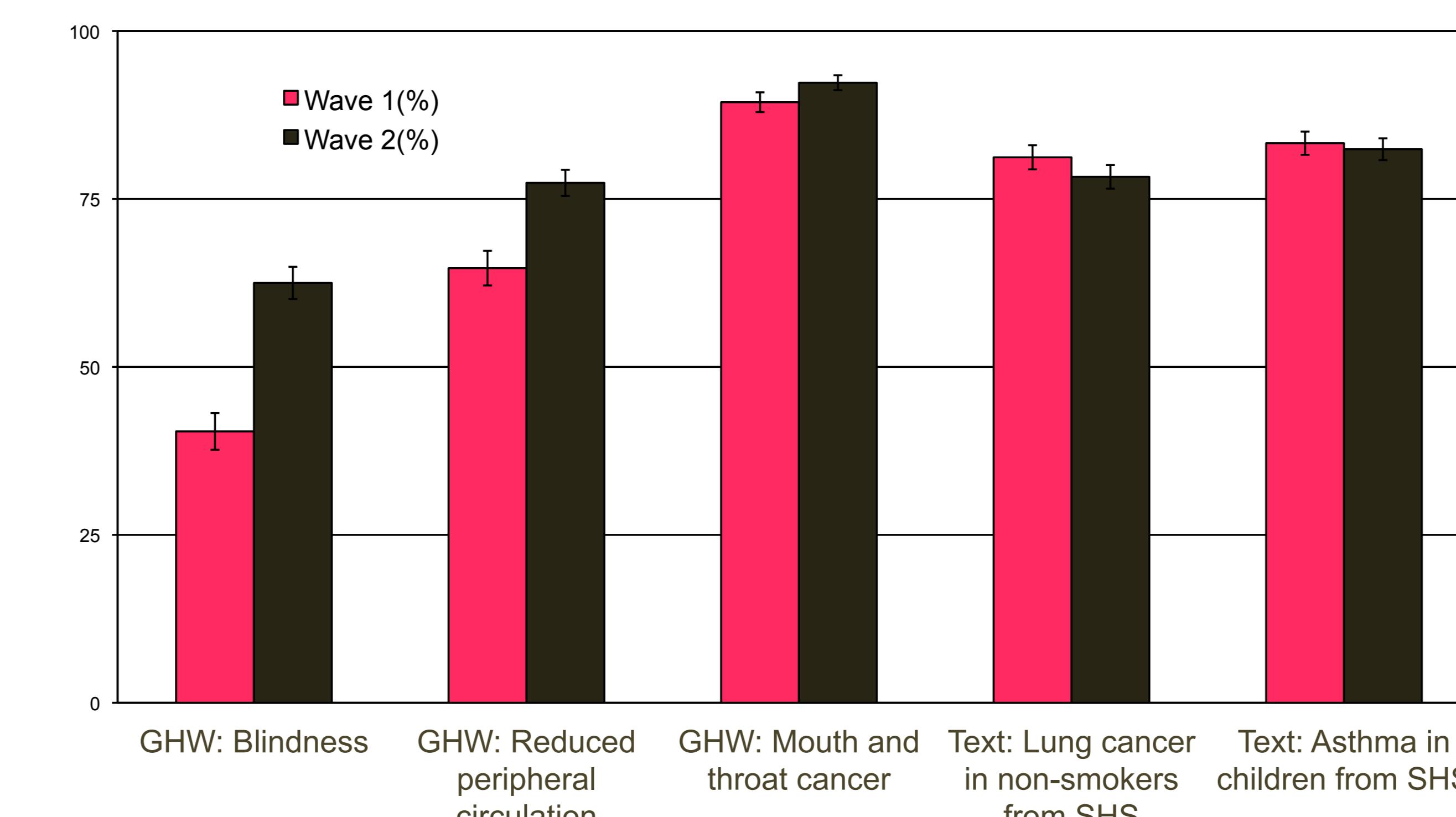
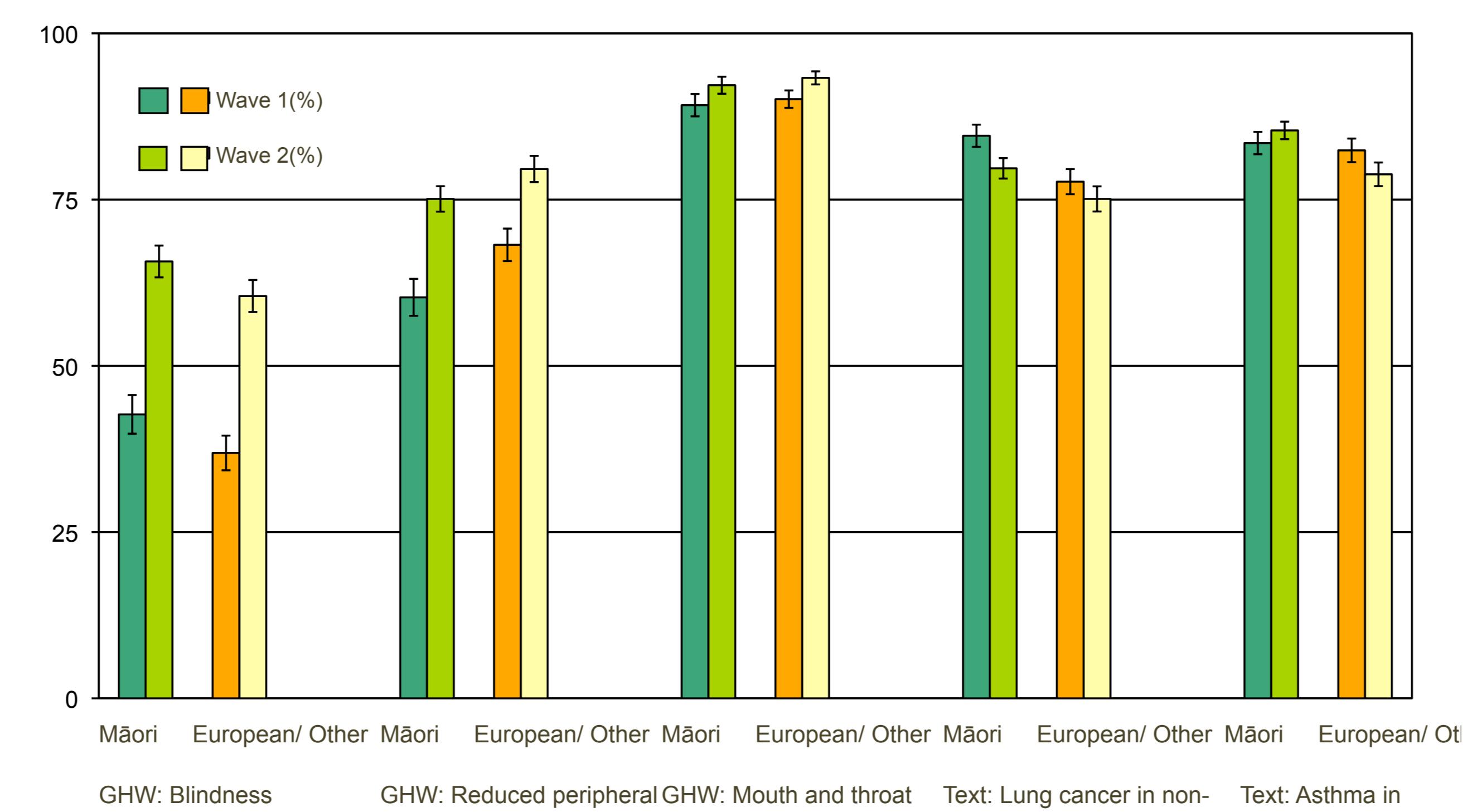


Figure 2. Knowledge of smoking-related diseases by ethnicity, wave 1 (text-only warnings) and wave 2 (ie, after the new GHWs were introduced)



## Discussion

Following the introduction of GHWs, smokers' knowledge of smoking-related harms increased – especially for less common knowledge. This overall finding in favour of GHWs is consistent with other international literature [3].

Knowledge increased for both Māori smokers and for more deprived

smokers suggesting that this intervention is reaching a wide range of smokers and is not obviously exacerbating overall inequalities in knowledge.

It is conceivable that some of the improved knowledge came from a mass media campaign on oral cancer launched between the two waves of surveys – but we suspect the cumulative exposure to the new GHWs would be much greater than from these campaigns. There were no similar campaigns which could have affected the knowledge increase in blindness and peripheral circulation reductions.

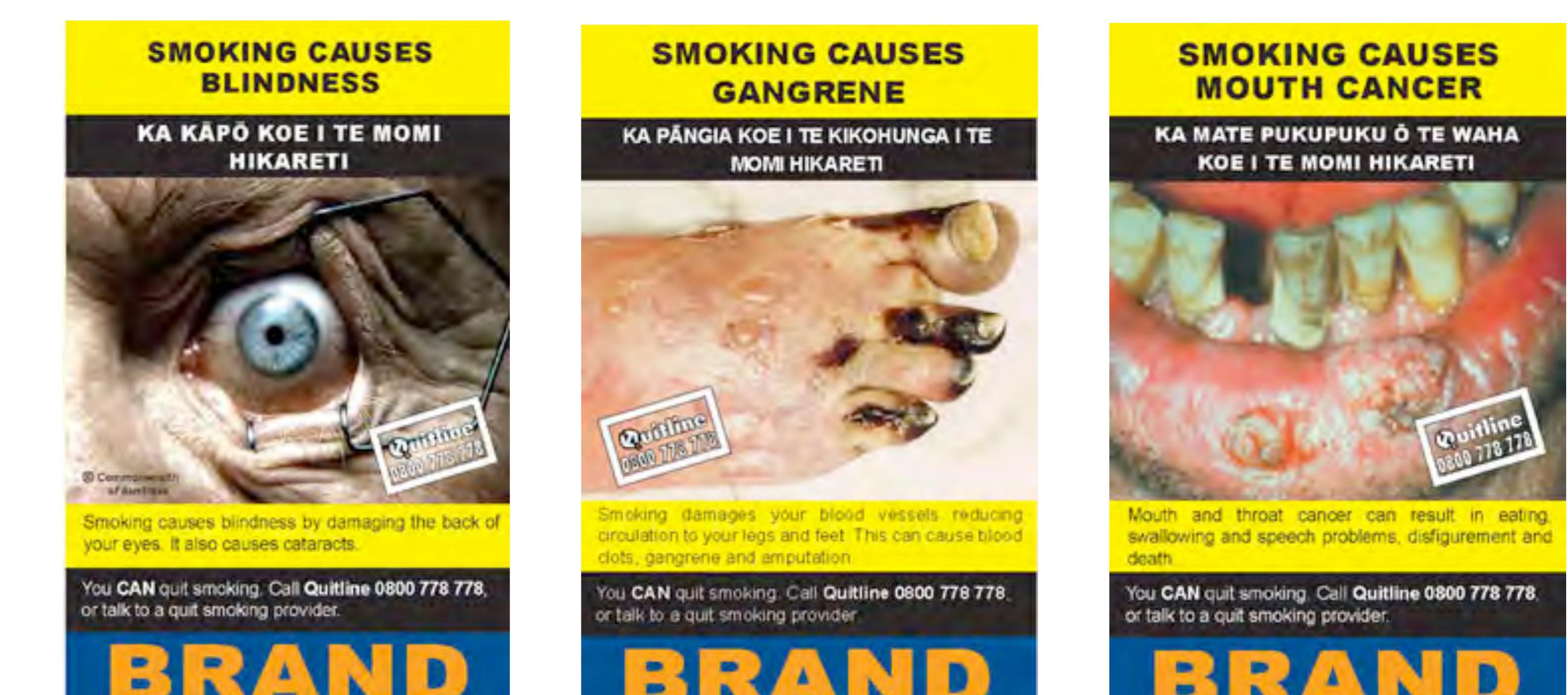


Image 1: GHWs on the back of pack featuring three of the five knowledge areas asked in the surveys.

Providing in-depth information of specific harms caused by smoking is crucial in enabling smokers to make informed choices on smoking [4]. Our findings showed that GHWs are effective in improving knowledge of specific harms. However, GHWs in NZ could still be improved by increasing their size (from the current levels of 30% of the front and 90% of the back-of-a-pack), by expanding the range and refreshment rate (current only 2 rotating sets of 7 GHWs), and possibly by increasing the “fear arousal” content.

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## References

1. Hammond et al. *Tob Control* 15(Suppl III):19-25.
2. See an *Online Methods Report* by Wilson and 2 reports by Clark at: <http://www.wnmeds.ac.nz/itcproject.html>
3. Fong et al. *Bull World Health Organ* 87: 640-643.
4. Chapman & Liberman. *Tob Control* 14(Supp II): 8-13.