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Changes in compliance and sodium content of packaged foods after four years of Australia's voluntary sodium reformulation targets

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Abstract

Background/Objectives

Between 2020-21, the Australian Government released voluntary sodium reformulation targets for 33 food categories under the Healthy Food Partnership (HFP). The aim of this study was to evaluate the impact of these targets at the end of the implementation period.

Subjects/Methods

Nutritional composition data for packaged foods sold by major Australian retailers were obtained from the 2019 and 2025 FoodSwitch databases. We assessed changes in the proportion of HFP-targeted products (n = 4,507 in 2019; n = 6,184 in 2025) meeting the sodium targets, changes in compliance across the 10 largest manufacturers, and changes in the mean sodium content of HFP-targeted foods between 2019 and 2025.

Results

Over the four-year implementation period, overall compliance increased from 51.1% to 59.1%. The largest increases were observed for bacon (+ 41.5 percentage points), potato snacks (+ 28.0) and ham (+ 27.7), while compliance declined in some categories including pizza (− 14.3), prawns, squid and calamari (− 13.4) and Asian-style sauces (− 8.4). Among the 10 largest manufacturers, eight increased compliance with the HFP sodium targets. The mean sodium content of HFP-targeted foods increased by + 6.2 mg/100 g (relative change: +1.3%).

Conclusion

After four years of implementation, the HFP sodium reformulation targets achieved only modest gains in compliance and failed to reduce the overall sodium content of targeted foods. These findings highlight the limitations of voluntary reformulation and strengthen the case for mandatory sodium targets for Australia.

Introduction

Non-communicable diseases (NCDs) are the leading cause of death globally, accounting for more than 70% of all deaths [1]. Diet is one of the key modifiable drivers of this burden [2]. Among dietary risk factors, excessive sodium intake is a major contributor, largely through its effects on blood pressure and cardiovascular disease risk [3]. Reducing population-level sodium intake is therefore a key public health priority. The World Health Organization (WHO) recommends that adults consume less than 2 g of sodium (5 g of salt) per day and considers population salt reduction as a global “best buy” for NCD prevention [4].

In Australia, as in most high- and middle-income countries, packaged and processed foods contribute 70–80% of total sodium intake [5], with only a small proportion added during cooking or at the table [5]. Given the major contribution of packaged foods to sodium intake, the WHO recommends food reformulation as part of population salt reduction strategies. In line with this recommendation, many governments have introduced voluntary reformulation programmes that set category-specific sodium targets for packaged foods to reduce sodium levels across the food supply [6].

In 2015, the Australian Government established the Healthy Food Partnership (HFP), a collaboration between government, public health organisations and the food industry, aimed at improving the healthiness of the national food supply [7]. As part of the HFP, a national voluntary reformulation program was introduced, with targets for sodium, saturated fat and total sugar across selected packaged food categories. The sodium targets were released in two waves: 28 targets in June 2020 covering categories such as bread, processed meats, savoury snacks, sauces, soups and cheese, and a further five targets in July 2021 covering ready meals, breakfast cereals and popcorn [7, 8].

Interim evaluations of the HFP sodium targets found only modest improvements in compliance, with a small increase in the proportion of products meeting the targets [9]. The overall impact of these targets following the full implementation period has not yet been evaluated. As such, the primary aim of this study was to evaluate changes in compliance with the HFP sodium reformulation targets across the four-year implementation period (2019 to 2025). The secondary aims were to examine changes in compliance among the largest manufacturers of HFP-targeted products and to assess changes in the sodium content of HFP-targeted foods over the same period.

Materials and Methods

Study design

This repeated cross-sectional analysis used nutrition composition data from the Australian packaged food supply collected in 2019 and 2025. We selected 2019 as the pre-implementation year because it was the last full year before implementation of the HFP sodium targets, which commenced in July 2020. We selected 2025 as the post-implementation year because it falls after the four-year implementation deadlines for both Wave 1 (June 2024) and Wave 2 (June 2025). The University of New South Wales Human Research Ethics Committee approved this study (iRECS10257).

Data source

Data were obtained from the 2019 and 2025 Australian FoodSwitch annual monitoring dataset, owned and managed by The George Institute for Global Health [10]. FoodSwitch is a nationally representative nutritional composition dataset, which captures products available for sale from five major supermarket retailers in Australia. The products account for > 95% of all packaged food products purchased by Australian households [11]. Each year, trained data collectors conduct in-store data collection,

photographing all packaged food products available in store using standardised protocols [12]. Label information is then extracted - including product name, brand, manufacturer, package size, barcode, and nutrient values per 100 g/mL and per serve, into a central database following established quality-control procedures.

Exclusion criteria

Products were excluded from analysis if the sodium value was missing or if the sodium value represented a clear data-entry error, defined as 0 mg/100 g in a product whose ingredient list indicated that sodium must be present, or a value exceeding the sodium content of pure salt, approximately 39,300 mg/100 g. Products were also excluded if they were variety packs containing multiple nutrition information panels or if they were a duplicate record, defined as products with an identical barcode, product name and package size.

Mapping to the Healthy Food Partnership (HFP) food categories and targets

The first step was to identify individual products in the 2019 and 2025 FoodSwitch datasets that fell within the scope of the Wave 1 or Wave 2 HFP sodium targets. Eligible products were then grouped into relevant HFP food categories and sub-categories, comprising 28 sub-categories in Wave 1 and five in Wave 2. A product was classified as compliant if its sodium content was at or below the target level for its sub-category.

Each product was then classified as either matched (a continuing product line identified in both the 2019 and 2025 datasets) or unmatched (present in only one dataset, indicating a product that either entered or exited the market during the implementation period). Where possible, this classification was performed using the unique barcode. For products with missing barcodes, or where barcodes had changed between 2019 and 2025, matching was based on the brand, product name and package size.

Food manufacturer analyses

To assess progress towards the sodium targets among leading manufacturers, we identified the ten manufacturers with the largest number of products captured under the Wave 1 and Wave 2 sodium targets. Some manufacturers were recorded under different company names in 2019 and 2025 due to a renaming, mergers or acquisitions, or because products were listed under a subsidiary in one year and the parent company in the other. In these cases, company names were standardised and products were assigned to a single parent company so that the same manufacturer portfolio, rather than different corporate entities, was compared over time.

Statistical analysis

For each year, the number and proportion of products meeting the relevant HFP sodium target were calculated and changes in compliance from 2019 to 2025 were reported as absolute percentage point differences overall, by wave, by food category, and for the ten largest manufacturers. Compliance proportions for each year, overall, by wave and for each of the ten largest manufacturers were reported with 95% Wilson score confidence intervals. Changes in compliance among matched products were tested with McNemar's test for paired proportions. The 95% confidence interval for the matched compliance change was calculated using a paired normal approximation based on the discordant pairs. For unmatched products, differences in compliance between 2019 and 2025 were reported with 95% Newcombe hybrid score confidence intervals. Sodium content was summarised as the mean and standard deviation (SD) for each year. Mean differences in sodium content among matched products in 2019 and 2025 were tested using paired t-tests, while mean differences between unmatched products were assessed using Welch's independent two-sample t-tests; both were reported with 95% confidence intervals from the respective t-tests. A two-sided P-value below 0.05 was considered statistically significant. All analyses were conducted in R version 4.6.1.

Results

A total of 23,851 unique packaged food products were included in the 2019 dataset and 22,783 in the 2025 dataset. Of these, 4,507 (18.9%) in 2019 and 6,184 (27.1%) in 2025 were classified as HFP-targeted products for sodium. Overall compliance with the HFP sodium targets increased from 51.1% in 2019 to 59.1% in 2025 (Fig. 1). Compliance increased more for Wave 1 targets, from 49.6% to 59.3%, while Wave 2 targets, which had a higher baseline compliance, showed a smaller increase, from 55.6% to 58.6%.

Changes in compliance by food category

Compliance with the HFP sodium targets increased across most food categories, although the magnitude of change varied substantially. The largest increases in compliance were observed for bacon (+ 41.5 percentage points), potato snacks (+ 28.0), ham (+ 27.7), leavened breads (+ 22.5) and pesto (+ 21.5). In contrast, compliance declined in a small number of categories including pizza (− 14.3), prawns/squid/calamari (− 13.4) and Asian-style sauces (− 8.4) (Table 1).

Table 1
Changes in the proportion of products (%) meeting the HFP sodium targets over the implementation period, 2019 vs 2025

Food category	Sub-category	Number of products		Products meeting targets (%)		Absolute change (%)
		2019	2025	2019	2025	
Wave 1 targets						
Bread	Leavened breads	331	597	41.7	64.2	+ 22.5
	Flat breads	154	246	44.8	53.7	+ 8.9
Cheese	Cheddar & cheddar-style	97	212	62.9	65.6	+ 2.7
	Processed cheese	34	36	58.8	75.0	+ 16.2
Crumbed & battered proteins	Meat & poultry	121	167	39.6	59.3	+ 19.7
	Fish	59	94	40.7	44.7	+ 4.0
	Prawns, squid and calamari	20	101	55.0	41.6	−13.4
Gravies & sauces	Gravies & finishing sauces	71	94	35.2	47.9	+ 12.7
	Pesto	22	60	31.8	53.3	+ 21.5
	Asian-style sauces	73	129	30.1	21.7	−8.4
	Other savoury sauces	284	424	54.2	58.0	+ 3.8
Pizza	Pizza	95	142	51.6	37.3	−14.3
Processed meat	Ham	57	93	36.8	64.5	+ 27.7
	Bacon	65	96	23.1	64.6	+ 41.5
	Processed deli meats	49	81	14.3	16.0	+ 1.7
	Frankfurts & saveloys	23	29	43.5	44.8	+ 1.3
Sausages	Sausages	67	89	22.4	36.0	+ 13.6
Savoury biscuits	Plain savoury crackers and biscuits	157	142	65.0	70.4	+ 5.4
	Plain corn, rice and other ‘grain-cake’ biscuits	24	14	75.0	71.4	−3.6
	Flavoured savoury biscuits, crackers and ‘grain-cake’ biscuits	193	347	66.3	68.3	+ 2.0

Food category	Sub-category	Number of products		Products meeting targets (%)		Absolute change (%)
		2019	2025	2019	2025	
Savoury pastries	Dry pastries	96	192	60.4	67.7	+ 7.3
	Wet pastries	77	111	45.5	48.6	+ 3.1
Savoury snacks	Potato snacks	120	196	38.3	66.3	+ 28.0
	Salt & vinegar snacks	18	31	72.2	80.6	+ 8.4
	Extruded and pelleted snacks	61	118	59.0	59.3	+ 0.3
	Vegetable/grain snacks	160	217	50.0	51.6	+ 1.6
Soups	Soups	411	280	47.7	62.1	+ 14.4
Sweet bakery	Cakes, muffins, slices	408	521	61.8	75.0	+ 13.2
Wave 2 targets						
Breakfast cereals	Plain puffed or flaked or extruded breakfast cereals	101	82	90.1	89.0	−1.1
	All other ready-to-eat cereals	198	254	93.9	94.5	+ 0.6
	Plain cereal biscuits	22	19	72.7	78.9	+ 6.2
Ready meals	Ready meals	771	890	41.6	45.8	+ 4.2
Savoury snacks	Popcorn	68	80	45.6	50.0	+ 4.4

By the end of the implementation period, compliance with the HFP sodium targets ranged from 16.0% to 94.5% across food categories. The highest levels of compliance were observed for other ready-to-eat breakfast cereals (94.5%), plain puffed/flaked/extruded breakfast cereals (89.0%), and plain cereal biscuits (78.9%). The lowest compliance was observed for processed deli meats (16.0%), Asian-style sauces (21.7%) and sausages (36.0%) (Table 1).

Changes in compliance by food manufacturer

Products sold by the ten largest manufacturers accounted for 40.9% of all HFP-targeted products for sodium in 2019 (n = 1,844) and 36.2% in 2025 (n = 2,238). The private-label brands of the three major supermarkets, Coles, ALDI and Woolworths, contributed the largest share of HFP-targeted products in both years. These were followed by The Smith's Snackfood Company, Simplot, George Weston Foods, Campbell Arnott's, Patties Foods, Goodman Fielder and McCain Foods (Fig. 2).

Changes in compliance varied substantially across these manufacturers. The largest increases were observed for Goodman Fielder (+ 59.0 percentage points), George Weston Foods (+ 45.4), Woolworths (own brand) (+ 21.9) and Coles (own brand) (+ 21.1) (Fig. 2). Smaller improvements were observed for Patties Foods (+ 8.5), Simplot (+ 7.2) and Campbell Arnott's (+ 6.6), while compliance remained essentially unchanged for McCain Foods (+ 1.0), ALDI (own brand) (− 0.5) and The Smith's Snackfood Company (− 2.1).

Changes in the sodium content across HFP-targeted products

Across all HFP-targeted products for sodium, the mean sodium content increased by 6.2 mg/100 g (+ 1.3%) over the implementation period (Table 2). Across the 33 food categories, the mean sodium content decreased in 18 categories, increased in 14 categories and was unchanged in one. Changes in the mean sodium content varied substantially, ranging from − 262 mg/100 g in soups to + 313 mg/100 g in Asian-style sauces. The largest reductions were observed in soups (− 44.1%), cakes, muffins and slices (− 12.3%) and processed cheese (− 11.0%). In contrast, the largest increases were observed for gravies and finishing sauces (+ 36.4%), Asian-style sauces (+ 17.5%) and plain puffed, flaked or extruded breakfast cereals (+ 11.4%).

Table 2
Changes in the mean sodium content (mg/100g) across HFP target food categories, 2019 to 2025

Food category	Sub-category	Number of products		Mean sodium content (mg/100g)		Absolute and % change in sodium (mg/100g)
		2019	2025	2019	2025	
All products combined						
All products combined		4,507	6,184	486.9	493.1	+6.2 (+ 1.3%)
Wave 1 targets						
Bread	Leavened breads	331	597	399	389	−10.3 (− 2.6%)
	Flat breads	154	246	511	480	−31.1 (− 6.1%)
Cheese	Cheddar & cheddar-style	97	212	732	718	−14.2 (− 1.9%)
	Processed cheese	34	36	1106	984	−121.8 (− 11.0%)
Crumbed & battered proteins	Meat & poultry	121	167	509	459	−50.1 (− 9.9%)
	Fish	59	94	320	320	+ 0.1 (+ 0.0%)
	Prawns, squid and calamari	20	101	487	496	+ 9.5 (+ 1.9%)
Gravies & sauces	Gravies & finishing sauces	71	94	629	858	+ 228.7 (+ 36.4%)
	Pesto	22	60	841	754	−87.0 (− 10.3%)
	Asian-style sauces	73	129	1786	2099	+ 313.1 (+ 17.5%)
	Other savoury sauces	284	424	395	432	+ 37.1 (+ 9.4%)
Pizza	Pizza	95	142	473	515	+ 42.2 (+ 8.9%)
Processed meat	Ham	57	93	1053	998	−54.7 (− 5.2%)
	Bacon	65	96	1067	1004	−62.6 (− 5.9%)
	Processed deli meats	49	81	937	940	+ 2.7 (+ 0.3%)
	Frankfurts & saveloys	23	29	967	942	−24.5 (− 2.5%)
Sausages	Sausages	67	89	675	622	−53.3 (− 7.9%)
Savoury biscuits	Plain savoury crackers and biscuits	157	142	584	548	−36.3 (− 6.2%)

Food category	Sub-category	Number of products		Mean sodium content (mg/100g)		Absolute and % change in sodium (mg/100g)
		2019	2025	2019	2025	
	Plain corn, rice and other ‘grain-cake’ biscuits	24	14	183	193	+ 9.8 (+ 5.4%)
	Flavoured savoury biscuits, crackers and ‘grain-cake’ biscuits	193	347	661	645	−16.2 (− 2.4%)
Savoury pastries	Dry pastries	96	192	465	483	+ 17.8 (+ 3.8%)
	Wet pastries	77	111	396	402	+ 6.3 (+ 1.6%)
Savoury snacks	Potato snacks	120	196	560	512	−48.0 (− 8.6%)
	Salt & vinegar snacks	18	31	818	732	−85.8 (− 10.5%)
	Extruded and pelleted snacks	61	118	689	739	+ 49.6 (+ 7.2%)
	Vegetable/grain snacks	160	217	550	490	−59.9 (− 10.9%)
Soups	Soups	411	280	594	332	−262.1 (− 44.1%)
Sweet bakery	Cakes, muffins, slices	408	521	326	286	−40.2 (− 12.3%)
Wave 2 targets						
Breakfast Cereals	Plain puffed or flaked or extruded breakfast cereals	101	82	244	272	+ 27.7 (+ 11.4%)
	All other ready-to-eat cereals	198	254	76	83	+ 7.3 (+ 9.6%)
	Plain cereal biscuits	22	19	273	269	−4.3 (− 1.6%)
Ready meals	Ready meals	771	890	298	302	+ 4.5 (+ 1.5%)
Savoury snacks	Popcorn	68	80	424	447	+ 22.5 (+ 5.3%)

Changes in compliance across matched and unmatched products

A total of 1,309 products were matched between the 2019 and 2025 datasets, while 3,198 products in 2019 and 4,875 products in 2025 were unmatched. Among matched products, compliance increased from 50.3% in 2019 to 64.3% in 2025 (+ 14.1 percentage points; 95% CI 11.8 to 16.3; McNemar’s test $P < 0.001$). Among unmatched products, compliance increased from 51.5% to 57.7% (+ 6.2 percentage

points; 95% CI 4.0 to 8.5) (Table 3). The mean sodium content for matched products declined from 498 mg/100 g to 479 mg/100 g, representing a reduction of -18 mg/100 g (95% CI: −27.0 to − 9.7) between 2019 and 2025. In contrast, the mean sodium content increased among unmatched products, from 482 mg/100 g to 497 mg/100 g (mean change + 14.3 mg/100 g; 95% CI: −10.2 to 38.8) over the same period (Table 3).

Table 3
Changes in compliance and sodium content among matched and unmatched products

Product group	Number of products		Compliance (%)		Mean change in compliance, pp (95% CI)	Mean (SD) sodium content (mg/100g)		Absolute change in sodium content, mg/100g (95% CI); relative change (%)
	2019	2025	2019	2025		2019	2025	
Matched products	1,309	1,309	50.3	64.3	+ 14.1 (+ 11.8 to + 16.3)	497.8 (422.9)	479.4 (430.5)	−18.4 (− 27.0 to − 9.7) Relative change: −3.7%
Unmatched products	3,198	4,875	51.5	57.7	+ 6.2 (+ 4.0 to + 8.5)	482.4 (578.7)	496.7 (501.4)	+ 14.3 (− 10.2 to + 38.8) Relative change: +3.0%

pp = percentage points; SD = standard deviation; CI = confidence interval. Matched products were identified in both 2019 and 2025; unmatched products were present at only one timepoint. Compliance is the proportion of HFP-targeted products for sodium meeting their category target. Change in compliance was calculated as the 2025 proportion minus the 2019 proportion and is expressed in percentage points. For matched products, the 95% CI was calculated using a paired normal approximation based on the discordant pairs; McNemar's test was used to test the paired change. For unmatched products, the 95% CI for the difference in independent proportions was calculated using the Newcombe hybrid score method. Change in sodium content was calculated as the mean difference in sodium content (2025 − 2019), with 95% CIs from a paired t-test for matched products and Welch's independent two-sample t-tests for unmatched products. SDs describe the distribution of sodium content among products at each timepoint; all 95% CI's refer to the between-year change rather than to the individual timepoint means. Relative change in sodium content is the absolute mean change divided by the 2019 mean, multiplied by 100, and is labelled separately beneath each absolute-change interval.

Discussion

This end-of-implementation evaluation of the Australian Government's voluntary sodium reformulation program found only modest improvements in compliance, with approximately 40% of products still

exceeding targets at the end of the implementation period. Food companies did not engage with the program consistently across their product portfolios, as evidenced by varied progress across the targeted food categories. Moreover, the mean sodium content increased over the implementation period, suggesting that improved compliance did not achieve meaningful sodium reduction. As such, the current voluntary sodium targets are unlikely to have advanced the HFP's broader objectives of reducing diet-related disease and improving the health of Australians [7].

Given that the HFP is Australia's major policy mechanism for improving the healthiness of the food supply, the limited impact of the sodium reformulation program is disappointing. Engagement with the sodium targets varied substantially across food manufacturers, with some showing little or no improvement over the implementation period. This uneven uptake highlights a fundamental limitation of voluntary reformulation programs, whereby participation is at the discretion of manufacturers [8, 9]. The limited progress is particularly disappointing given previous modelling suggests that full manufacturer compliance with the HFP sodium targets could have reduced average adult sodium intake from packaged foods by approximately 110 mg/day, equivalent to a 3.7% reduction in total intake, and prevent an estimated 514 premature deaths and 1,921 new cases of cardiovascular disease, chronic kidney disease and stomach cancer each year in Australia [13]. These unrealised benefits highlight the limitations of a voluntary framework reliant on industry-wide goodwill. Future sodium reformulation efforts in Australia should therefore incorporate stronger implementation mechanisms, including mandatory targets or, at minimum, incentives and accountability mechanisms to support industry-wide compliance in order to achieve the HFP's broader goals of reducing diet-related disease, improving population health and lowering health-care costs [7].

While compliance increased over the implementation period, progress varied across targeted food categories. Several categories showed substantial improvements, including bacon, ham, leavened breads, potato snacks and pesto, whereas compliance declined in others, including pizza, prawns, squid and calamari, and Asian-style sauces. Although industry engagement is an important determinant of reformulation progress, the design of the sodium targets may have also limited their effectiveness. The HFP targets were intended to be set at approximately the 33rd percentile of products within each category to ensure feasibility [8, 14]. However, as shown in this study, baseline compliance often exceeded this, leaving limited incentive for manufacturers to further reduce sodium in already compliant products. This may also explain the smaller gains observed among Wave 2 categories, which generally had less scope for improvement. Together, these findings suggest that future sodium reduction efforts require not only stronger implementation mechanisms but also more ambitious targets capable of driving meaningful reformulation across the food supply.

These findings build on previous evaluations of the HFP, which have similarly reported limited and inconsistent progress. The Australian Bureau of Statistics (ABS) reported that compliance with Wave 1 targets among participating products increased from 68% to 81% over four years, while mean sodium content decreased by around 4% [15, 16]. Greater improvements were observed than in our study, likely reflecting differences in study design. The ABS evaluation used a June 2020 baseline and a June 2024

endpoint and was restricted to products from companies formally enrolled in the program (n = 1,853), with sodium content analyses limited to products with composition data available at both timepoints (n = 1,293). In contrast, our analysis spanned 2019–2025 and included all products within targeted categories, regardless of manufacturer participation. Despite also including Wave 2 target categories, our matched analyses produced similar findings, indicating that reformulation of continuing products contributed to sodium reductions during the implementation period. However, these gains were offset by the introduction of higher-sodium products, resulting in little overall change in the sodium content of HFP-targeted foods.

The modest and inconsistent progress observed under the HFP is consistent with international evidence on voluntary sodium reformulation programs [17]. A recent rapid review by Gressier et al. [17] found that mandatory reformulation policies are consistently more effective than voluntary approaches at reducing sodium content across the packaged food supply, with voluntary programs typically producing small and category-specific effects that vary substantially between manufacturers. Country-level evidence also supports this pattern. Following the introduction of mandatory sodium limits, South Africa achieved more than 70% compliance in nine of thirteen targeted food categories [18, 19], while Argentina reported substantial reductions in sodium content across major processed food categories [20, 21]. In contrast, voluntary programs have produced more variable results. Although the United Kingdom's achieved meaningful reductions under sustained government-led target-setting and monitoring, progress slowed when government leadership weakened [22, 23].

In Australia, previous voluntary sodium reformulation programs have also achieved limited success. The Food and Health Dialogue (FHD), the predecessor to the HFP, was a voluntary, industry-led program implemented between 2009 and 2015. Although evaluations reported sodium reductions of 9–25% in targeted categories such as bread, breakfast cereals and processed meats [24], progress stalled because the FHD did not expand its category coverage or progressively strengthen targets. Consequently, after more than a decade of reformulation activity, there has been little overall improvement in the sodium content of packaged foods. To achieve greater reductions in sodium intake, Australia should look beyond the current HFP framework and draw on international best practice, such as the WHO global sodium benchmarks, when setting future targets. Modelling suggests that adopting the WHO benchmarks in Australia could reduce mean adult sodium intake by 404 mg/day, equivalent to a 12% reduction, and avert around 1,770 deaths per year — more than three times the estimated health benefit of full compliance with the current HFP targets [25, 26]. Together, these findings suggest that while sodium reformulation has considerable potential to improve population health, substantially stronger policy approaches may be needed to realise these benefits in Australia.

Key strengths of this study include the use of a large, systematically collected nationally representative dataset covering products from Australia's five major supermarket retailers, which together account for more than 95% of packaged foods purchased by Australian households [11]. Moreover, the study spans the full HFP implementation window, allowing an end-of-implementation assessment, while the matched and unmatched analyses provide insight into the mechanisms underpinning changes in sodium content.

Several limitations should also be considered. First, our analyses were based on packaged food composition data and did not assess changes in consumer purchasing or dietary sodium intake. Second, while FoodSwitch provides comprehensive coverage of major supermarket retailers, some products available in the market, particularly from smaller retailers, and independent brands, may not have been captured. Third, although our two timepoints span six calendar years, they were selected to bracket the Wave 1 and Wave 2 four-year policy implementation windows; a tighter alignment with the exact policy deadlines may have refined the estimates but is unlikely to have materially altered the overall pattern of results.

Conclusion

At the end of the four-year implementation period, Australia's voluntary sodium targets achieved only modest improvements in compliance. A substantial proportion of products continued to exceed targets, and improvements did not translate into meaningful reductions in sodium content. Progress varied across food categories and manufacturers, suggesting that the voluntary framework was insufficient to drive consistent reformulation across the industry. To achieve meaningful reductions in population sodium intake and its associated disease burden, the Australian Government should strengthen the HFP reformulation program through more ambitious sodium target levels, broader target coverage, and mandatory mechanisms to ensure industry compliance.

Declarations

Journal

European Journal of Clinical Nutrition

Ethical approval

This study was approved by the University of New South Wales Human Research Ethics Committee (iRECS10257). The study used product-level packaged food composition data and did not involve human participants, so informed consent was not required.

Competing interests

The authors declare no competing interests.

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Author contributions

MH designed the analysis, curated and analysed the data, and drafted the manuscript. LH contributed to data curation and statistical analysis. KRK contributed to the interpretation of the findings. KT contributed to the study design and interpretation of the findings. DHC conceived the study, supervised the analysis and interpretation, and critically revised the manuscript. All authors reviewed and approved the final manuscript.

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Not applicable.

Data availability

The FoodSwitch datasets analysed in this study are not publicly available because they are held under licence by The George Institute for Global Health. De-identified data supporting the findings are available from the corresponding author on reasonable request and with permission of The George Institute for Global Health. The Healthy Food Partnership sodium targets used in the analysis are publicly available from the Australian Government Department of Health, Disability and Ageing [7].

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Figures

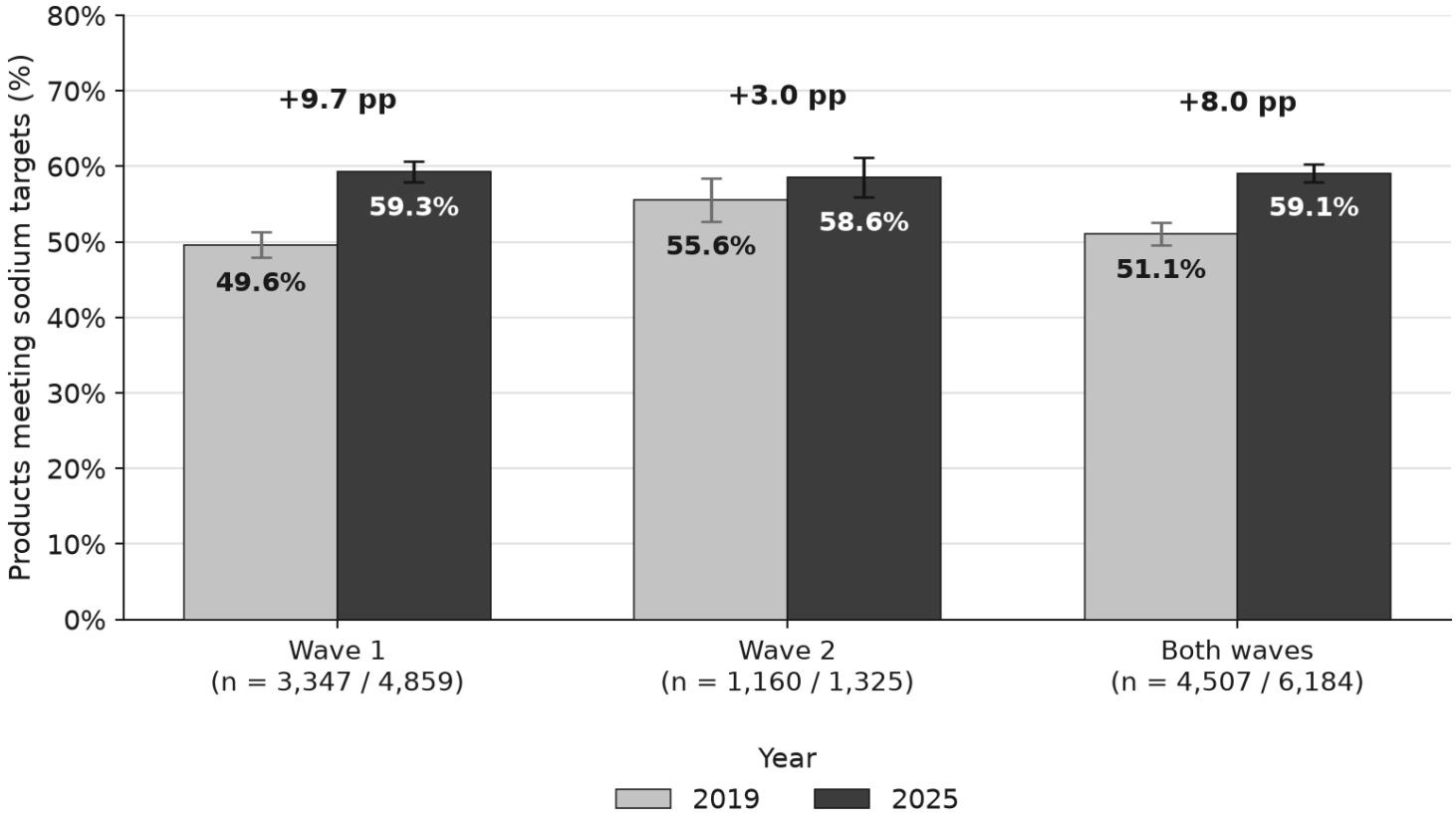


Figure 1

Change in compliance with Healthy Food Partnership sodium targets overall and by reformulation wave (Wave 1, Wave 2), 2019 vs 2025.

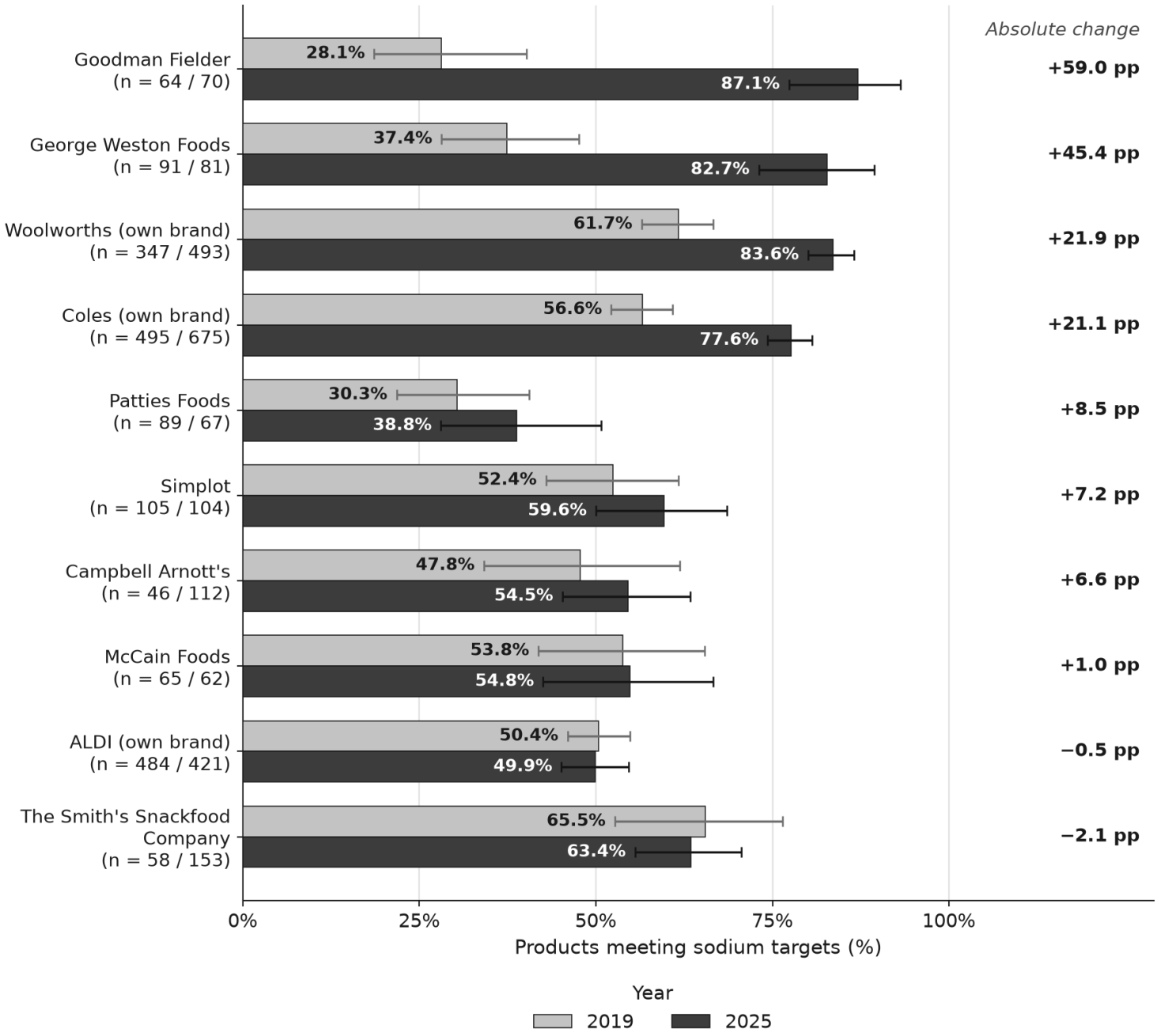


Figure 2

Compliance with Healthy Food Partnership sodium targets across the ten largest manufacturers, 2019 vs 2025, sorted by absolute change (combined across Wave 1 and Wave 2 targets).