Corrigendum: The effectiveness, cost-effectiveness and policy processes of regulatory, voluntary and partnership policies to improve food environments: an evidence synthesis

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This paper[1] is corrected as follows:

Author María Jesús Vega-Salas's surname and affiliation updated
Tables 6, 7, 16 and 17 updated to reflect significance of 'large arrow ▲' and 'small arrow ▲.'

Reference

1. Blanchard L, Ray S, Law C, Vega-Sala MJ, Bidonde J, Bridge G, *et al*. The effectiveness, cost-effectiveness and policy processes of regulatory, voluntary and partnership policies to improve food environments: an evidence synthesis. *Public Health Res* 2024;**12**(8). https://doi.org/10.3310/JYWP4049.

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TABLE 6 Direction of effect by comparison of governance approaches and outcome for the general population

Key outcomes reported	Direction of effect (or association) by comparison of governance approaches (k = N studies, n = N participants; colour/signs = quality)			Policies and governance approaches (countries)
	Regulation (R) vs. voluntary (V)	Regulatory alone	Voluntary alone	
Health				
Heart diseases and mortality	R▲, V▲ diverse measures of MI, stroke and mortality rates k = 3, n = 10,337; (+)			Trans-fat policies:[48] V self-regulated limits (Costa Rica), R trans-fat limits or ban in restaurants (NYC, USA)
	RV▲, V▲ stroke and CHD mortality k = 3, (−)			Salt policies:[50] V reformulation + R label + campaigns (Finland), V reformulation + V label + campaigns (Japan, UK)
Behaviours				
Dietary intake of unhealthy foods or nutrients		▼▲ salt intake k = 2, n = 883 individuals + 1395 households; (++)		Taxes on salt reduction in[40] non-essential food (Hungary); imported instant noodles (Tonga)
	R▲, V▲ trans-fat intake k = 4, n = 34,031; (+)			Trans-fat reduction policies: R ban (Denmark), R labelling + V limits (Canada), V self-regulated limits (Costa Rica, the Netherlands)[48]
	R▲, V▲ trans-fat in plasma serum and breastmilk k = 5, n = 3869; (+)			Trans-fat policies:[48] R labelling + V limits (Canada), self-regulated limits (Costa Rica), R labelling (USA)
	RV▲, V▲ salt intake k = 7; (−)			Salt policies: V reformulation + R label + campaigns (Finland), V reformulation + V label + campaigns (China, Japan, UK) V bread reformulation + campaigns (France)[50]
			▲ total and sat fat intake (via sales tax) k = 2; 2000 households + 1293 supermarkets; (++)	Tax on saturated fat[42] (Denmark)

TABLE 6 Direction of effect by comparison of governance approaches and outcome for the general population *(continued)*

Key outcomes reported	Direction of effect (or association) by comparison of governance approaches (k = N studies, n = N participants; colour/signs = quality)			Policies and governance approaches (countries)
	Regulation (R) vs. voluntary (V)	Regulatory alone	Voluntary alone	
			▲ sales of least healthy SSBs and beverages k = 2, n = 442 stores; (++)	V self-regulation on-shelf Guiding Star labelling (Canada and USA)[46]
			▲▶ SSBs sold/purchased (k = 3, n = 61,126 house-holds + 17 companies) (++)	V self-regulation/pledges:[46] HWCF Market Place Pledge (by manufacturers about calorie) and Walmart's Healthier Food Initiative (USA)
				Tax on non-essential food (Hungary),[44]
Intake, sales and purchases combined		▲ difference in mean expenditure on taxed vs. untaxed sugar-added food k = 1, n = 40,210 households; (++)		
		▲ SSBs intake/sales/ purchases k = 15, n = 539,952; (++)		SSB taxes (Chile, France, Mexico, Spain, USA)[45]
Use of labels			Noticing and using nutrient menu labels k = 1, n = 6 non-chain restaurants and ~16,000 main meals V▲	V nutrient menu-labelling in restaurants (USA)[41]
Food environment				
Food and drinks nutrition content		▲ soft drink sugar content k = 1; (++)		R traffic light FOP label (Ecuador)[43]
	R▲, V▲ trans-fat content k = 8, n = 13,123 prod-ucts + 6969 purchases; (+)			Trans-fat policies:[48] R ban (Denmark, NYC), R labelling + V limits (Canada), R labelling (USA, Korea), V self-regulated limits (Costa Rica, Netherlands)
	R▲, V▲▶ calorie content k = 11, n = 678 restaurant chains; (–)			Calorie menu labelling:[49]: R (Australia, Canada, USA), V (UK)[a]

TABLE 7 Direction of effects for specific population groups by equity domain and policy governance approach (eligible real-world policies only)

Equity domains	Direction of effect (or association) by comparison of governance approaches (*k* = N studies, *n* = N participants; quality)	Governance approaches and policies (countries)
Place	NR	
Race, ethnicity, culture, language	△ for non-Hispanic white adults (trans-fat in blood) (*k* = 1, *n* = 229–292 in 2000–9); (++)	R trans-fat limits and M labels (USA)[38]
	▲ for African American (SSB intake); (*k* = 1, *n* = 7300); (+)	R State SSB taxes (USA)[36]
	Unclear (BMI); (+)	R State SSB taxes (USA)[36]
Occupation	NR	
Gender	▲ for women (BMI); (*k* = 2, *n* = 4,658,255); (+)	R Tax on SSBs and fast-food restaurants (USA)[36]
	Mixed governance: ▲ for men and women (salt intake); (*k* = 1, *n* = 1206–909 in 1979–2002); (−)	R salt labelling + V reformulation + media campaign (Finland)[50]
	Voluntary: ▲ for men and women (salt intake); (*k* = 1, *n* = NR in 2006–10); (−)	V salt targets + V FOP logo + education (Denmark)[50]
Religion	NR	
Education	◀▶ BMI (*k* = 2, *n* = 2,863,095); (++)	SSB taxes (USA)[36]
SES	▲ for low-income (purchases of taxed foods) (*k* = 1, *n* = 6089 households); (++)	R Tax on non-essential food (Mexico)[45]
	▲ for low-income (intake of taxed sugar-added foods (*k* = 1, *n* ~ 10,000 households); (++)	R Tax on non-essential food (Hungary)[45]
	◀▶ (SSB/calorie intake) (*k* = 2, *n* = 9953 households + 7300 children); (++)	SSB taxes (Mexico, USA)[45]
	◀▶ (purchases/sales SSBs) (*k* = 6, *n* = 96,884 households + 284,464 sales in Spain); (++)	SSB taxes (Chile, Mexico, Spain)[45]
	▲ households in lowest income quartile (likely for the consumption of unprocessed sugar or sugar-added food) (*k* = 1, *n* = 40,210 households; (++)	Tax on non-essential foods (Hungary)[44]
	◀▶ (*k* = 2; *n* = 2,716,288 participants); (++)	SSB taxes (USA)[35]
Social capital	NR	
Age	▲ adult vs. children (declined in both; SSB intake) (*k* = 5, *n* unclear); (++)	SSB taxes (USA)[45]
	▲ for middle-aged and older (BMI); (*k* = 1, *n* = 2,709,422); (+)	State SSB taxes (USA)[36]
	▲ for children low-income (SSB intake); (*k* = 1, *n* = 7414); (+)	SSB state taxes (USA)[36]
	◁▷ children's menus (calorie and other nutrients) (*k* = 3, *n* = 291 restaurants); (+)	R calorie menu labelling (Australia, USA)[49]
Disability	NR	

NR, not reported; R, regulatory; RV, mixed governance; V, voluntary.

Notes
k = N studies referring to the outcome; *n* = total N participants. Symbols: The triangles illustrate the overall direction of effect or association on health and health-related outcomes independently from statistical significance. ▲ = desirable effect, ▼ = undesirable effect, ◀▶ = inconsistent effect. Large arrow ▲ > 300 sample size; medium arrow △ 50–300; small arrow ▲ < 50. Quality rating: (−) = assessed as low quality; (+) = assessed as acceptable quality; (++) = assessed as high quality. Sample size: The final sample size was selected for studies that include more than one data collection.

TABLE 16 Direction of effects between P and NP: outcomes relating to advertising and marketing to children (n = 9 studies)

Author (year)	Study design N years between policy implementation and evaluation; study quality	Sample size of participants (P) group (% of total sample)	TV advertising to children: frequency of adverts for unhealthy foods and advertising practices	TV advertising to children: nutrition profile and types of products shown	Online marketing to children: presence of marketing of unhealthy food and marketing practices	Online advertising to children: nutrition profiles and types of products shown	Corporate social activities in nutrition and physical activity: nature and targeted populations
CFBAI (Canada) (n = 4)							
Vergeer (2019)[77]	CS; 10 years Moderate (+)	14 (38%) companies;			$\triangledown_1$ (presence of child-directed marketing)	$\triangledown_3$ (sat fat, Na, sugar; sample size: over 158 products from P)	
Potvin Kent (2018) TV[74]	RCS-PP; 6–9 years Low (−)	120 (50%) adverts in 2013, 187 (56%) in 2016		$\triangle_1$ (UK OFCOM criteria, CP) $\triangleleft\triangleright_4$ (PAHO criteria, CP)			
Potvin Kent (2018) Online[76]	CS; 8–9 years Moderate (+)	~35.5 million (79%) adverts				$\blacktriangle_1$ (ultra-processed food) $\blacktriangleright_1$ (UK OFCOM criteria) $\blacktriangleleft_5$ (PAHO criteria) $\blacktriangleright_7$ 'Negative' nutrients per 100 g: kcal, fat, sugar, salt $\triangleleft\triangleright_2$ 'Positive' (nutrients per 100 g: fibre, protein)	

TABLE 16 Direction of effects between P and NP: outcomes relating to advertising and marketing to children (*n* = 9 studies) (*continued*)

Author (year)	Study design N years between policy implementation and evaluation; study quality	Sample size of participants (P) group (% of total sample)	TV advertising to children: frequency of adverts for unhealthy foods and advertising practices	TV advertising to children: nutrition profile and types of products shown	Online marketing to children: presence of marketing of unhealthy food and marketing practices	Online advertising to children: nutrition profiles and types of products shown	Corporate social activities in nutrition and physical activity: nature and targeted populations
Potvin Kent (2020)[75]	CS; 9 years Moderate (+)	36 (75%) CSR activities from 18 companies					▼₁ (proportion of nutrition-related initiatives) ◆₁ (proportion of child-targeted initiatives)
CFBAI (USA) (n = 1)							
Harris (2018)[80]	CS 9 years Unclear (?)	9 companies (28%)	▼₂ (adverts' frequency-two age groups, CP).				
EU pledge (n = 2)							
Landwehr (2020)[79]	RCS-PP 4–11 years Moderate (+)	239 (59%) adverts in 2011, 295 (71%) in 2014		◁▷₆ (share in commercial and CP, N spots in commercial and CP, N products, adverts length) △₁ (UK OFCOM criteria) ◁▷₁ (PAHO criteria) ◁▷₂ (presence of sweets and fast-food brands, General audience and CP)			
Neyens (2017)[78]	CS; Unclear, potentially 7 years Low (–)	15 (31%) websites			◆₃ (online protection) ◆₂ (marketing tactics)	▼₁ (score based on UK OFCOM)	

Author (year)	Study design N years between policy implementation and evaluation; study quality	Sample size of participants (P) group (% of total sample)	TV advertising to children: frequency of adverts for unhealthy foods and advertising practices	TV advertising to children: nutrition profile and types of products shown	Online marketing to children: presence of marketing of unhealthy food and marketing practices	Online advertising to children: nutrition profiles and types of products shown	Corporate social activities in nutrition and physical activity: nature and targeted populations
QSRI and RCMI (Australia) (n = 2)							
Watson (2017)[72]	CS; 6 years Moderate (+)	NR (for both N companies and adverts)	▼2 (adverts frequency, RCMI and QSRI, general audience and CP)				
Smithers (2019)[71]	CS; 8 years Low (−)	NR (for both N companies and adverts)	▲▼2 (adverts frequency, CP and children's peak time)				

CS, cross-sectional; CSR, corporate social responsibility; Na, sodium; RCS-PP, repeat cross-sectional post–post; Sat fat, saturated fat.

Notes

Effect direction: the triangles illustrate the overall direction of effect on the outcomes independently from statistical significance. Upward ▲ = greater positive outcome for the participants, downward arrow ▼ = worse outcome for the participants, sideways arrow ◄► = no change/mixed effects/conflicting findings between the groups. Sample size: Final sample size in intervention group (policy participants). Large arrow ▲ > 300; medium arrow △ 50–300; small arrow ▲ < 50. Subscript numbers: Number of outcomes within each category synthesis.

It is not possible to add numerical results in the summary effect direction table because each triangle represents a summary of multiple directions of effects for different outcomes within that category of outcomes.

Author (year)	Study design; N years between policy implementation and evaluation; Study quality	Sample size of participants (P) group (% of total sample)	Restaurant food and beverages: calorie labelling display	Children's meals in restaurants: nutrient content	Manufactured products: nutrient content and presence of child-directed marketing on packaging
Kids LiveWell (USA) (n = 1)					
Moran (2017)[82]	RCS-PP 1–4 years Low (–)	2002 menu items from 15 restaurants: 890 (47%) beverages, 639 (46%) entrées, 321 (82%) side dishes and 152 (84%) desserts		$\triangleleft\!\triangleright_4$ (calories) $\triangleleft\!\triangleright_3$ (sodium) $\triangleleft\!\triangleright_3$ (saturated fat) (All for entrées, sides and desserts; also beverages for calories)	
QSRI and RCMI (Australia) (n = 1)					
Wellard-Cole (2019)[73]	RCS-PP 1–7 years Low (–)	172 (60%) meals from 6 chains		$\triangledown_3$ (calories) $\triangle_3$ (saturated fat) $\triangleleft\!\triangleright_3$ (sugar) $\triangleleft\!\triangleright_3$ (sodium) (all for 4-, 8-, 13-year-olds)	
RD (England, UK) (n = 1)					
Robinson et al. (2019)[57]	CS 7 years Unclear (?)	16 (15%) restaurants chains	$\blacktriangle\!\blacktriangledown_2$ (displaying labels, all labelling criteria)		

CS, cross-sectional; Na, sodium; RCS-PP, repeat cross-sectional post–post; Sat fat, saturated fat.

Notes

Effect direction: The triangles illustrate the overall direction of effect on the outcomes independently from statistical significance. Upward ▲ = greater positive outcome for the participants, downward arrow ▼ = worse outcome for the participants, sideways arrow ◀▶ = no change/mixed effects/conflicting findings between the groups. Large arrow ▲ > 300; medium arrow △ 50–300; small arrow ▲ < 50. Subscript numbers: number of outcomes within each category synthesis.

It is not possible to add numerical results in the summary effect direction table because each triangle represents a summary of multiple directions of effects for different outcomes within that category of outcomes.