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Lessons for strengthening policymaking for obesity and dietrelated noncommunicable disease prevention: A narrative synthesis of policy literature from the Western Pacific Region

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Summary

Obesity and diet-related noncommunicable diseases (NCDs) have a profound impact on individuals, households, health care systems, and economies in low- and middle- income countries (LMICs), with the Western Pacific Region experiencing some of the highest impacts. Governments have committed to improving population diets; however, implementation challenges limit effective policy action. We undertook meta-narrative synthesis of the academic literature and used theories of policymaking and implementation to synthesize current knowledge of issues affecting the adoption and implementation of policies to prevent obesity and diet-related NCDs in LMICs in the Western Pacific Region. We found that political leadership and management of food and nutrition policies often diluted following policy adoption, and that nutrition and health advocates find it difficult to enforce policy compliance from actors outside their sectors. Opportunities for strengthening implementation of food and nutrition policies in the Western Pacific include (1) improved and earlier engagement between health policymakers and implementing agencies; (2) focusing on the need for increased accountability from governments, including through effective engagement and organization of actor networks, knowledge sharing, and in highlighting where stronger action is required; and (3) identifying and building the strategic capacities of policy actors in framing, advocacy, coalition-building, knowledge translation, and leadership.

KEYWORDS

healthy diets, NOURISHING, obesity prevention, policy analysis, policy implementation

1 | INTRODUCTION

Poor nutrition is a major contributor to global mortality and morbidity. 1,2 Rapid globalization, urbanization, and economic growth over

Abbreviations: LMIC, low- and middle- income countries; NCD, noncommunicable disease; SIDS, small islands developing states; UN, United Nations; WHO, World Health Organization; WPR, Western Pacific Region.

the past three decades have resulted in major shifts in food supply and consumption in lower-middle income countries (LMICs), characterized by the displacement of whole or traditional foods with foods that are highly processed, packaged, and ready-to-eat^{3,4} and high in fat, sodium, and sugar. The shift from traditional diets to processed foods has been particularly rapid and dramatic for LMICs, ^{1,2} and it has come at a significant cost to health, ^{1,5} including a substantial increase

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in rates of overweight and obesity and diet-related noncommunicable diseases (NCDs), ^{1,5-7} compounding a worsening double burden of malnutrition. ^{5,8,9} Obesity and overweight, linked to overconsumption of dietary energy, is also strongly associated with hypertension and cardiovascular disease, as well as NCD-related mortality. ¹⁰ The majority of the mortality burden from NCDs is borne by LMIC¹¹ where NCDs have had a substantial impact on individuals, households, health care systems, and economies. ^{12,13}

Countries have committed to adopting strategies to improve population diets and prevent NCDs through the Rome declaration on Nutrition (2014), the Sustainable Development Goals, and at the United Nations General Assembly. 14-17 Specific policy measures that are consistently recommended include protecting children from unhealthy food and beverage marketing, increasing affordability of healthy foods relative to unhealthy foods, behavior change communications, reforming food environments within education institutions, and food reformulation to reduce salt and trans fatty acid content in the food supply. 18,19 These recommended policy interventions show clear evidence of benefit, 20-24 and they have been suggested to have equal or greater benefit to lower socioeconomic groups. 25

Actions to address obesity and diet-related NCDs thus represent an investment in economic and social development, ^{12,13} creating an imperative for governments to adopt food environment policies as a strategy to promote healthy diets. ¹⁸ Despite this, progress towards addressing specific drivers of unhealthy diets has been slow, ^{8,9,26} and there remain substantial gaps between global targets and outcomes. ²⁷⁻²⁹

The translation and operationalization of policy commitments by countries are gaining attention as a major limitation to effective policy action, one that must be addressed if countries are to tackle the upstream drivers of unhealthy diets and make progress against obesityand diet-related NCDs. 9,26,30 LMICs face substantial challenges in getting evidence-based food and nutrition policies on the agenda. 26,31,32 They often lack access to a cohesive and relevant body of evidence that would help them to advocate for evidence-based food policies 31,33 and a reduced regulatory and monitoring capacity to implement them.³⁴ Policies to promote healthy food environments compete with other priorities, 31,35 and policymakers face ongoing pressures to design policies that minimize impacts on business and trade.³⁶ LMICs are additionally impacted by diet-related diseases at an earlier phase of their economic development than high-income countries, when they are less equipped with the resources to respond effectively, 34,37 and decisions to prioritize food and nutrition transformation are made in the context of many competing development challenges.³⁸ Addressing upstream drivers of obesity- and diet-related disease will require better understanding of the political, technical, and economic enablers of food and nutrition policy implementation in developing contexts. 35,39-41

However, there is surprisingly little evidence on how and why nutrition policy implementation gaps persist, ^{27,42} and previous food environment policy reviews have noted the limited availability of studies from LMICs. ⁴³⁻⁴⁵ Although many factors associated with food and nutrition policy implementation are context specific, LMIC's face a number of shared challenges associated with insufficient human and financial resources, ⁴⁶ rapid epidemiological and demographic change, ³⁸ and the

lack of reliable data to inform policymaking. ^{38,47} This provides opportunity for trans-national policy learning on ways to overcome policy barriers and facilitate more effective implementation. ⁴⁸ There have been a growing number of studies conducted that examine challenges and opportunities with respect to nutrition policy implementation, but this literature is diffuse due to methodological and geographical heterogeneity, and to date it has not been examined as a whole.

The aim of this review was to synthesize knowledge on issues affecting the translation and operationalization of policies for obesity and diet-related NCD prevention in the Western Pacific Region. In the Western Pacific Region, NCD-related mortality is higher⁴⁹ and growing more rapidly⁵⁰ than in any other region in the world. Despite clear progress and innovation in food and nutrition policymaking in this region, 51-53 representatives attending food- and nutrition-centered World Health Organization (WHO) Western Pacific Member State consultations described the implementation of many policy measures at the country level as "slow,"54-56 "challenging,"56 and "weak," 57 and a number of food or nutrition policy studies have cited implementation challenges.³³ As such, efforts to address diet-related diseases have thus far proved insufficient to substantively address Pacific.58 **NCDs** In this the Western review, "implementation" includes all the policy processes that occur at the country level to translate, operationalize and sustain globally-recommended food environment policies. From a country perspective, this is not just one step in the cycle, but an ongoing set of actions shaped by the decisions made across a policy continuum, including policy agenda-setting, formulation, and administration, ⁵⁹ This review focuses on generating lessons for strengthening implementation of obesity and diet-related NCD prevention policy as applicable to other LMICs.

2 | METHODS

We conducted a review of the academic literature using a metanarrative synthesis approach (2004-2021). We used this approach because the literature surrounding the study of food policy process is multidisciplinary, spanning public health, law, and the implementation and political sciences, and meta-narrative synthesis is useful for sensemaking across a broad range of research questions and methods. ⁶⁰⁻⁶² Narrative synthesis is ideal for the study of socially complex problems ^{62,63} and where the outcome of interest includes the socio-political factors that affect the policy process. ^{60,64} We chose to focus on the academic literature because preliminary searches found few relevant reports documenting the adoption and implementation of obesity or diet-related NCD prevention policies, and we had previously published a synthesis of policymaker meeting reports covering similar issues. ⁶⁵

2.1 | Search strategy

Semi-systematic searches are suited to the review of topics that span multiple research traditions and where topics are defined and conceptualized differently. 62,66 They entail iterative adjustment to search

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strategies in response to the data to capture the range of topics that would not be detected through a strictly systematic review process. We used EBSCO Host as a multidisciplinary database with major subdatabases indexed. Our search of title, abstract, or keywords included fields each for study type (review, evaluation, political economy, case study), policy type (e.g., policy, strategy, legislation) (Data S1). Coauthors of this paper had a strong track record in this Region, and their familiarity with the research meant they were able to highlight articles that should have emerged from the searchers, prompting iterative adjustment to the searches.

We used thematic areas from the World Cancer Research Fund's NOURISHING Framework to define policy initiatives recommended to promote healthy diets and prevent obesity and diet-related.¹⁸ NOURISHING presents a framework for food environment policy that is consistent with WHO's Global Action Plan for Prevention and Control of NCDs.⁶⁷ The framework is based on strong and cohesive evidence demonstrating how shifts in the supply, availability, affordability, and appeal of food have heavily shaped dietary patterns. and that these have been a key driver of increasing obesity and dietrelated NCD prevalence. We added a policy domain for "breastfeeding protections" given the linkages between early-life nutrition and later-life obesity and cardiometabolic disease.⁶⁸ We complemented the framework with a domain to capture some of the "structural factors" that impact on policy process and policy context, including the health policy context, policy capacity, ^{69,70} and the political economy for nutrition and obesity prevention more broadly³⁵ (Table 1). We included LMICs and Small Island Developing States (SIDS), who face a shared set of economic and development challenges including small size and remoteness, a narrow resources base, and high vulnerability to global environmental challenges and external economic shocks. 71

TABLE 1 Domains of interest for obesity and diet-related NCD prevention, adapted from WCRF's NOURISHING framework.

Policies to promote healthy diets and prevent obesity and diet-related NCDs

Nutrition label standards and regulations on the use of claims and implied claims on foods

Offer healthy foods and set standards in public institutions (including schools)

Use economic tools to address food affordability and purchase incentives

Restrict food advertising and other forms of commercial promotion Improve the quality of the food supply

Set incentives and rules to create a healthy retail environment Breastfeeding protection

Structural factors

Political economy and corporate political activity

National policies, strategies, and plans relevant to nutrition

Cross cutting issues for nutrition policy (e.g., evidence and data, food labelling, and claims)

Source: Table adapted from World Cancer Research Fund's NOURISHING Framework (2013). 18

2.2 | Selection and appraisal

Our initial search was conducted in February 2022. The search process involved multiple iterations in consultation with a research librarian and the policy team, all with expertise in nutrition policy research. We supplemented this search with a scan of the reference lists (snowballing), until no new papers of interest were identified (408 articles). Guided by Horsley et al., We cross-checked the search results with our research team to ensure all relevant articles were captured, 72,73 adding four additional papers.

Title and abstract screening was guided by inclusion and exclusion criteria (Table 2). Studies in countries outside of Western Pacific Region or that were not LMIC or SIDS were excluded. We also excluded studies related to human physiology or nutrition. We included papers covering all aspects of the policy process, including agenda-setting, design, adoption, implementation, monitoring, and evaluation. We also included studies related to health systems more broadly because many provided useful insight into health systems capacities (e.g., a country's public health human resources, availability, or use of data for policymaking). Criteria 1-5 were applied through title and abstract screening at the time of each search. Studies passing criteria 1-5 were sent to an Endnote library created for the review. Criteria 6 and 7 regarding contextual and structural factors impacting on policy process were applied at the full-text review stage. 60,63 One author led the search and screening process, and uncertainties were discussed with two other coauthors. We did not exclude studies on the basis of methodological design.

2.3 | Data extraction and analysis

Relevant information from each study was extracted into an Excel matrix by the lead author. The matrix included fields for study characteristics (publication year, focal country, methodological approach, and specific aspect of food policy being studied) and the relevant stage of policy process (adoption, implementation, or monitoring and outcomes). One author coded all the studies, and two other authors double-coded approximately 20% of the articles. Coding was undertaken using a coding framework to provide a reference point for the extraction and interpretation of relevant study findings⁷⁴ (Table 3). Our coding framework was based on the Health Policy Analysis Triangle (HPAT), which was designed for the study of health policy implementation in LMICs.⁷⁵ The domains of HPAT promote investigation into the ways in which individual and groups of actors interact with the process of policymaking and implementation, the development and interpretation of policy content, and the context in which the policy is developed and disseminated. We supplemented this with subcodes representing additional policy theories to add depth to the analysis, including Potter's framework for diagnosing capacity⁶⁹ and Kingdon's Multiple Streams Theory for evidence on the policy problem and political engagement in it.⁷⁶ The application of multiple policy sciences theories and frameworks can enhance comparability and scientific rigor, both of which are central to the generation of policy



TABLE 2 Inclusion and exclusion criteria.

	Criteria	Inclusion	Exclusion
1	Methodological design	Papers presenting primary-data evidence	Expert commentaries and reviews
2	Timeline	2004-2021	Prior to 2004
3	Domains of policy	Food environment and population diet policy and papers reflecting contextual influences on food policy in countries, as defined in Table 1	Genetic or lab studies Animal papers Malnutrition Food safety Micronutrients
4	Scale	National or regional	Global, sub-national
5	Setting	Western Pacific Region (WPR) LMIC and/or Small Island Developing state (SIDS)	Outside of the WPR Not LMICs and/or SIDS
6	Data on implementation Findings regarding contextual and/or structural factors identified as impacting on policy process. ⁶⁰		Does not report findings regarding contextual or structural factors impacting on policy process. ⁶⁰
7	Policy process	Any policy process relevant to a country's efforts to implement global policy at the national level, including design, adoption, implementation, monitoring, evaluation	

Abbreviation: LMIC, low- and middle- income country.

TABLE 3 Framework for analysis

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Domain of Health Policy Analysis Triangle (HPAT)	Theory-led codes			
Context	Evidence or absence of priority for policy			
	Governance and accountability			
	Environment and culture			
Actors	Actors discussed as significant to implementation			
	Actor and organizational priorities, motivation, and interests			
	Actor and organizational capacities			
Policy	Presence or absence of evidence for policy decisions			
	Strong, clear, and coherent policy design			
	Influence of context and environment			
Process	Policy process and stages of implementation			

lessons applicable to other settings.^{34,77} We used the analytical domains from the HPAT to arrange relevant constructs emerging from the policy theory. This framework has previously been used to examine nutrition policy action across multiple contexts.³³

We reviewed and summarized data recorded against each code with respect to research objectives, arranging the data into predominating themes using an iterative approach based on similar or overlapping concepts and concerns. For example, from excerpts citing challenges with monitoring (coded under "policy process and stages of implementation") and lack of data and evidence (coded under

"presence or absence of evidence for policy decisions"), we identified a theme on the role of "Evidence informed policy implementation."

We applied quality appraisal tool for narrative synthesis called the *Scale for the Assessment of Narrative Review Articles* (SANRA). We present these themes below as issues affecting the implementation of food and nutrition policy recommendations in the Western Pacific Region.

3 | RESULTS

3.1 | Description of the studies

The 51 included studies were published between 2010 and 2021 (median year 2016) (Data S2). The largest number of studies were from Vietnam (9 studies) and Fiji (14 studies), with a roughly equal spread of studies from East Asia and the Pacific (Table 4). There were 12 studies that used a regional or subregional analysis lens (e.g., the studies exploring food policy for multiple Pacific Island Countries).

More than half of the studies were focused on the food environment policy domain (31 out of 51). Economic tools, initiatives to improve the quality of the food supply, and healthy institutional food procurement and standards (all relating to schools) were the most commonly studied policy initiatives (Table 5). There were 29 studies presenting information on the structural influences on food and nutrition policy processes, with 11 of these providing useful information with regard to a country's broader capacity for food environment policy and 9 providing insight to the political economy of food and nutrition policy. Many studies covered 2 or more domains of interest; for instance, one study presented findings on corporate political activity of the infant formula industry as it related to breastfeeding protection policy.

TABLE 4 Studies by country.

Country	Number			
Fiji	14			
Vietnam	9			
Philippines	5			
Samoa	5			
Tonga	4			
Mongolia	4			
Lao	3			
Cambodia	2			
FSM	1			
Solomons	1			
Multi-country papers grouped by subregion				
Pacific Island Countries	10			
Small Island Developing States	1			
Across Western Pacific	1			

Note: Some articles included more than one country.

With respect to the policy process, "agenda-setting" (encompassing policy design and adoption) was most commonly studied (39 studies), while 16 examined policies that were already being implemented, and 10 focused on policy monitoring or outcomes. The methodological approaches of these studies spanned process evaluations, policy monitoring, political economy analysis, documentary synthesis, policy analyses, health economics, policy case studies, quantitative analysis with clearly outlined policy implications, and expert commentary on policymaking in countries.

3.2 | Political support throughout the whole policy implementation process

Around half of the studies drew an explicit link between policy implementation successes and the presence or absence of political support. For instance, strong political commitment diet-related NCD prevention in Samoa and Fiji reportedly led governments to adopt restrictions on fatty meat imports⁷⁹ and school nutrition guidelines.⁶⁵ In the Philippines, the commitment and championship of a handful of political leaders led to the eventual adoption of a bill to ban the marketing of breastmilk substitutes, despite 16 years of industry opposition.⁷⁸ Political support and collaboration was attributed as aiding the adoption of voluntary salt reduction standards in Mongolia.⁸⁰

At the Pacific Regional level, two papers outlined how a 2015 agreement by Pacific Health Ministers on an NCD prevention roadmap (the roadmap emphasized investment in healthy diets as one of four key priorities) had significantly accelerated nutrition policy in that part of the region. A study examining the national nutrition agenda in Vietnam concluded that the adoption and implementation of a plan would be reliant on the support of the National Assembly to assert influence. 82

A number of studies cited a lack of political support for population food and nutrition policy, or to the issue of the obesity more broadly, as a key barrier to the adoption of a policy agenda. For instance, an SSB tax in the Philippines was reportedly hampered by the limited interest of political leaders in tackling obesity more broadly due to long held beliefs about malnutrition being a more critical challenge. A study from Fiji noted a similar lack of political will for the adoption of proposed marketing restrictions, stemming from ideological tensions between those representing health interests and those representing economics and consumer interests. 4

Several studies also reported how a dilution of political leadership and support following policy adoption had limited implementation effectiveness.81,85-89 For instance, a 2015 review of salt-reduction strategies in 22 Pacific Island Countries and Territories identified a lack of ongoing high-level political commitment as a key barrier to the implementation of agreed strategies.⁸⁵ A case study from Fiji referenced a "lack of commitment at the top level" as a limitation for food policy implementation progress there. 86 A study from Samoa demonstrated that supportive political leaders were not engaging with policymakers on implementation issues.⁶⁵ Our documentary analysis of WPR meeting reports found that low political will for nutrition measures across government and among political leaders was widely reported at regional conferences and meetings.³³ Reasons given for this dilution included that policy leaders tended to avoid engaging in policies perceived to have a negative impact on consumers or food companies⁸⁶ and that policy leaders were accepting of nutritional challenges when they felt powerless to change them. 82 A regional analysis of political commitment to diet-related NCDs by Pacific Island leaders (2020) identified potential cross-sectoral tensions in priorities and positions across key government sectors, including health, agriculture, trade, finance, and education, as a key challenge to gaining political priority.81 A study from Fiji explained ideological tensions faced by governments, where nutrition is positioned as a central concern to political leaders but not given equal priority to economic growth and development. 90 Perhaps because of this dilution, several studies reported that policymakers want to see more oversight and engagement of policy leaders during implementation.³³ Pelletier et al.⁸⁷ and Reeve et al.⁶⁵ found a relationship between political engagement and systems-wide commitment to policy implementation and maintenance.87

The studies reviewed provided insight into strategies that had been successful in garnering high-level political support for food and nutrition policy. These included the development of a sufficiently strong evidence-base for policy action 65,86,91-93 and aligning policies to other government priorities to build political acceptability. 79,83,91,93 A study from Fiji documented that health policymakers had consistently tapped into neoliberal logic and presented the problem of dietrelated NCDs in economic terms in order to gain political support. 90 Studies also credit the persistence of various policy coalitions in attracting political interest to nutrition issues 82,91,93 and their skilfulness in recognizing and acting on opportunities created by regional and international actions and events. 82,94

United Nation actors and accountability tools, including the SDG's, were identified as catalysts to action in a number of countries.

TABLE 5 Number of studies by fields of nutrition policy by domain.

TABLE 5 Number of studies by fields of nutrition policy by domain.				
Approaches to promote healthy diets and prevent obesity and diet-related NCDs	Number	Examples		
Nutrition label standards and regulations on the use of claims and implied claims on foods	1	Harmonisation of food labeling regulations in Southeast Asia: benefits, challenges and implications (Kasapila et al 2011)		
Offer healthy foods and set standards in public institutions (including schools)	6	Factors influencing the National School Health Policy implementation in Lao PDR: A multi-level case study (Saito et al 2015)		
Use economic tools to address food affordability and purchase incentives	7	The development and implementation of a new import duty on palm oil to reduce non-communicable disease in Fiji (Coriakalu et al 2018)		
Restrict food advertising and other forms of commercial promotion	4	Household food providers' attitudes to the regulation of food marketing and government promotion of healthy foods in five countries in the Asia Pacific region (Worsley et al 2018)		
Improve the quality of the food supply	9	Implementing effective salt reduction programs and policies in low- and middle-income countries: learning from retrospective policy analysis in Argentina, Mongolia, South Africa and Vietnam (Webster et al 2021) Trade policy and obesity prevention: challenges and innovation in the Pacific Islands (Snowdon et al 2013)		
Set incentives and rules to create a healthy retail environment	1	Re-Regulation in the Post-WTO Period? A Case Study of Vietnam's Food Retailing Sector (Nguyen et al 2014)		
Breastfeeding protection	3	Implementation of two policies to extend maternity leave and further restrict marketing of breast milk substitutes in Vietnam: a qualitative study (Payan et al 2021)		
Structural factors				
Political economy and corporate political activity	9	Perspectives of Fijian Policymakers on the Obesity Prevention Policy Landscape (Hendriks et al, 2015) Breastfeeding, first-food systems and corporate power: a case study on the market and political practices of the transnational baby food industry and public health resistance in the Philippines (Baker et al, 2021)		
National policies, strategies, and plans relevant to obesity and diet-related NCD prevention	7	Regulatory measures to fight obesity in Small Island Developing States of the Caribbean and Pacific, 2015–2017 (Foster et al 2018)		
Cross cutting issues for policy (e.g., use of evidence and data for policy)	11	Monitoring and accountability for the Pacific response to the non-communicable diseases crisis (Tolley et al 2016) Factors affecting evidence-use in food policy-making processes in health and agriculture in Fiji (Waqa et al, 2017)		
Nutrition capacity	1	Opportunities and barriers to public health nutrition education in Vietnamese universities (Pham et al 2017)		

Note: Some articles included more than one focus. Abbreviation: NCD, noncommunicable disease.

For instance, attendance at a regional consultation on salt reduction, and involvement in the UN high level meeting on NCDs, were both extremely impactful in Vietnam and Mongolia.⁸⁰ Vietnam's hosting of the Standing Committee for Nutrition (SCN) in 2008 reportedly led to high level engagement by Vietnamese officials on nutrition issues.⁸²

3.3 | Effective cross-sectoral governance is essential for nutrition implementation

Studies reported that policymakers generally viewed cross-sectoral governance mechanisms as integral to nutrition policy implementation. ^{33,53,65,81,82,88,95} However, the mobilization of non-health actors towards implementation was frequently identified as a challenge for countries. ^{33,65,80,81,87,88,93,96} Also, health departments often inherited responsibility for overseeing the implementation of food policies by

non-heath sectors.^{85,87,91} A case study from Lao PDR reported that the promotion of school health policies by non-health actors had been considered a burden and additional to their "regular work." A study from Samoa reported that education officials believed nutrition promotion to be the responsibility of health officials, and that their ability to dedicate more curriculum space to nutrition would be in direct competition with other educational priorities, such as sexual reproductive health.⁶⁵

Reasons reported for poor mobilization of non-health actors towards nutrition policy implementation included that they have narrow ownership of nutrition 33,65,86,88,91 and development priorities other than obesity prevention. 65,88,89,91 In Vietnam, non-health agencies were reported to be less equipped than health actors for nutrition policy implementation. 82,87 In Lao PDR, it was suggested that sectors responsible for school food policy (including education) lacked a holistic understanding of health promoting environment concepts and therefore

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downplayed the role of non-health actors.^{88,97} In Fiji, it was reported that policy actors responsible for multisectoral coordination lacked the necessary confidence and skills to facilitate meaningful collaboration outside of their mandate.⁸⁶ In Samoa, officers representing non-health actors at committee meetings often rotated between meetings, affecting both continuity and the likelihood of recommendations being actioned.⁶⁵

Two studies indicated that health advocates tend to frame food policies too narrowly on benefits to health, without adequate consideration for the priorities of other policy areas. Analyses from Fiji⁹⁸ and other Pacific Island Countries found that earlier engagement by policymakers with implementing agencies (such as Finance and Trade) could help to ensure policy design is both politically palatable and feasible.

3.4 | Strategic capacities for nutrition that are needed in the Western Pacific Region

Studies consistently identified a "lack of capacity" as a key barrier to the implementation of food policies. ^{47,82,85–87,96,99–101} For example, a Pacific-wide review of the implementation of salt reduction strategies, ⁸⁵ a study of policy development in Fiji, ⁸⁶ and a study of Health Promoting Schools in Lao and Mongolia all noted a need to "improve capacity" for implementation. ⁹⁷

Study findings related to "lack of capacity" were most often framed as inadequate human resources or insufficient nutrition knowledge. However, using our framework, we were able to identify study findings related to a range of other strategic capacities that were lacking. For instance, it was reported that policymakers often lack confidence and skills to advocate for policy change or to facilitate meaningful crosssectoral collaboration.⁸⁶ Other studies reported that implementation had been hindered by staff and supervisory workload, weak staff oversight and accountability, and insufficient staff incentives. 85,87 Inadequate clarification of duties was reported to compromise role-clarity for nonhealth actors responsible for implementation in Vietnam, 82 Lao PDR, 88 and a number of the Pacific Islands.⁸⁵ In Samoa, policymakers responsible for food environment policy lacked the power and opportunity to enforce policy actions outside their mandate, 65 whereas in Fiji, policymaker capacity was constrained by a heavy "top-down" approach to governance⁹⁰ and the limited opportunities for nutritionists to be involved in central agency food-related decisions, for instance in the design of trade policy. 102 One study noted the role of civil society engagement in advocating for food and nutrition policy, but reported that civil society lacked the resources or capacities to usefully engage in sustained policy advocacy efforts for food marketing restrictions.84

3.5 | Corporate pressures on food policy processes

Several studies described ways in which food companies had negatively influenced agenda-setting for food environment policies. For instance, studies from Fiji and Philippines described how corporate players build political alliances and carry out long-term campaigns

promoting "softer" (non-regulated) approaches and de-regulation. ^{83,103} In Fiji, food companies had positioned themselves as "industry friends." ⁹⁰ In the Philippines, the breastmilk substitute lobby had managed to postpone the adoption of regulations restricting marketing of breastmilk substitutes, as they successfully campaigned to have them "watered-down." ⁷⁸ In Fiji, taxes on SSBs had been approved but then rescinded. One study outlined how trade agreements in play in the WPR Region, including the Comprehensive and Progressive Agreement for Trans-Pacific Partnership, provided avenues for food industry to provide input to food and nutrition policy development. ¹⁰²

Other studies presented examples of where food companies had attempted to capitalize on regulatory loopholes to undermine implementation of existing policies. For example, SSB manufacturers in the Philippines responded to an SSB tax by introducing smaller serve sizes to lower the unit price and maintain consumption.⁸³ In Mongolia, food companies had not complied with new food standards restricting health claims because the standards did not provide enough specification on nutrition claims that were not permitted (e.g., nutrient criteria). 104 Other ways food companies were undermining food environment policies included by intensifying marketing of unhealthy alternatives around schools (where sales and marketing of unhealthy foods were restricted within)¹⁰⁵ and by offering branded samples and marketing resources to medical⁷⁸ and educational professionals. 106 They were also reported to engage in philanthropy, for instance by providing critical school infrastructure 106 and "helping" communities. 103 And at a vendor level, food vendors in Cambodia 88 and Samoa¹⁰⁷ attributed their non-adherence to restrictive food policies to their proximity to retailers that were not subjected to the policy, citing concerns around economic viability and profitability.

3.6 | Coherent policy content that engages in effective implementation

This review found a number of ways in which food and nutrition policy design could better address operational and environmental barriers. In Lao PDR, for example, national school food guidelines were considered too "abstract" for policy implementers to correctly interpret.88 In Mongolia, food regulations mandating a substantiation of health claims did not provide requirements for that substantiation, and the credibility of those claims remained low. 104 Salt-reduction strategies in Samoa and Mongolia could not be fully implemented because regulations did not mandate sodium content labelling on foods, 107,108 though this was later corrected in Samoa⁸⁰ and corrections were underway in Vietnam.80 A review of sodium-reduction strategies in Pacific Island Countries identified that implementation would have been improved if strategies were better integrated into other health campaigns and surveys.⁸⁵ In Vietnam, strategies to protect breastfeeding did not extend to informal labor markets, and did not protect women working far away from home. 109 The process of adopting SSB taxes in the Solomons was hindered by lack of mandatory sugar labelling. 93 School food policy in the Philippines did not include a food classification system to

define "healthy," and the policy promoted (arguably) unhealthy packaged foods that had attracted a 'healthy' certification for being fortified with nutrients. ¹⁰⁶ At a macro level, an analysis of trade agreements in play in the Pacific documented ways in which they were constraining governments capacity to implement interventions to reduce unhealthy food promotion and sales. ¹⁰²

In one study, policymakers from across WPR highlighted that greater coherence with nutrition policy across government would assist in overcoming ongoing capacity limitations by creating efficiencies for implementation.³³ Samoa had addressed coherence by integrating school food standards into the Minimum Services Standards for Schools, but could have perhaps facilitated even greater efficiency by integrating compliance to the standards into business licensing for food vendors operating in and around schools.⁴⁵

3.7 | Monitoring and evidence use in obesity and diet-related NCD policy

Several studies reflected that countries recognized the critical importance of evidence use during policy development and implementation. 33,87,88,91,93,96,98 Many Pacific Countries had programs to monitor the impact of salt-reduction strategies on sodium consumption and food content, 85 and the impacts of trade agreements on food supply were being monitored in Fiji. 110 In Samoa, the Ministry of Health was undertaking extensive monitoring of school food policy. 65 In the Philippines, the Government had in place a monitoring plan that assessed policy implementation down to local government level, 95,111 and they were monitoring the impact of an SSB tax on beverage prices and sales. 83 According to policy officials in the Philippines, reports demonstrating the impacts of an SSB tax on sugar consumption had prompted support for further policy action by the President. 83 In Mongolia, evidence that a salt-reduction intervention had been effective enhanced support for its ongoing implementation. 80

Despite recognition of the need for monitoring, studies highlighted that the generation and compilation of evidence for nutrition policy action is particularly difficult in countries with limited data availability and reduced research capacity. 47,80,93,96,112 Pacific Island Countries in particular were reported to have struggled to maintain effective surveillance of risk factors to inform NCD prevention efforts. 47,53,85 Reasons given for this included that policymakers lacked the proper documentation and tools needed for monitoring activities, food environment monitoring can be resource-intensive to maintain, 85,96 and policymakers and implementers may lack the analytic capacity to systematically analyse and use monitoring data. 47,96 Some studies have noted that the lack of data and analytical capacity had been problematic for Pacific Island Countries when requested to raise scientific evidence behind health protection measures in order to counter trade complaints. 79,93,113

Policymakers in the region have expressed that a more consistent and compelling evidence-base for nutrition policy might help them to better attract political commitment, and weaken industry opposition.³³ However, what was less apparent in the studies were the ways

that monitoring was being used by countries to gauge policy effectiveness and reach, or to leverage the engagement of policy stakeholders and leaders during implementation. Across the region, policymakers reported that monitoring activities were not necessarily being used in a way that would incite action.³³ In Samoa for instance, monitoring was being carried out, but not used to inform ongoing policy design decisions.⁶⁵

3.8 | Policy enforcement as a mechanism to drive implementation

Policy enforcement was identified as a major limitation for implementing effective and sustained policies. Food and nutrition policy enforcement can be complicated to orchestrate when the power to enforce lies outside of health with other agencies^{65,91} or when the policy is not backed by strong and clear consequences for non-compliance.³³ A regional review of NCD prevention policies in Pacific Islands labelled enforcement strategies as "weak".⁵³ The absence of strong tools to aid assessment, reporting, and effective enforcement was identified as a key reason for poor school food policy compliance in the Philippines¹⁰⁶ and Samoa.⁶⁵ Studies from Samoa and Fiji highlighted a disparity in how different aspects of food policies were being handled, for example, school food vendors face serious sanctions for breaches to food hygiene and safety regulations, but seemingly no implications for non-compliance with school nutrition policies.^{65,114}

Overall, there were relatively few references to the role of enforcement at facilitating the implementation of food and nutrition policy. For instance, challenges with the effectiveness of voluntary salt-reduction strategies in Vietnam and Mongolia were not specifically attributed to lack of enforcement measures.⁸⁰

3.9 | Policy awareness and understanding

Several studies from the Western Pacific Region reported challenges associated with policy awareness and understanding among those responsible for implementing policies (e.g., vendors and health workers). For instance, health workers⁷⁸ and school leaders¹⁰⁶ in the Philippines had mistakenly engaged in industry marketing activities (by accepting and disseminating industry leaflets and gifts) because they had not recognized these as banned under policies to restrict food marketing and sponsorship. An insufficient understanding of holistic school health concepts, or a wide interpretation of "healthy eating" were given as a reason for low compliance to school food policies in Laos, 88,97 and Mongolia, 97 Samoa, 65 and the Philippines, 106 despite widespread awareness of the policy frameworks. For example, a vendor in Samoa had had the school food guidelines posted on the canteen wall, but had noted she was "dry-frying" nuggets and chips to make them "healthier." Studies did articulate that challenges in interpreting policy scope and parameters could be overcome by more clearly articulated policy wording and by underpinning that with clear food classification systems. 65,106

3.10 | Regional differences in the food and nutrition policy implementation literature

Studies emanating from the Pacific Islands only examined policies linked to the prevention of diet-related NCDs (e.g., fiscal policies, sodium reduction, trade policy, and NCDs). In contrast, studies from Asia included policies to address malnutrition in all its forms including breastfeeding protection and salt iodization.

Additionally, papers examining Pacific Island Countries more frequently engaged with the political science literature and theories of policymaking. Studies from Asia more often described the policy environment or actors in a more direct way, though engagement with the political sciences literature had increased more recently. 78,82,87,88,106 Pacific Island Countries were the focus of most multicounty or subregional commentary or analyses, with 10 papers exploring issues that are shared across the Pacific Islands, for instance, lack of data and capacity. These papers reflect a stronger sense of regionalism in the Pacific Islands on this issue, with collaborative efforts apparent in the generation of data and capacity building, in priority setting, and in the uptake of shared governance and accountability mechanisms for nutrition and NCD prevention. For instance, Pacific countries have developed a regional "roadmap" that harmonizes their policy efforts and accountabilities. In contrast, studies from Asia were more likely to reference external actors as catalysts or drivers for change, particularly agencies within the United Nations (e.g., UNICEF).

4 | DISCUSSION

This review synthesized current evidence on issues affecting the translation, operationalizing, and sustainability of globally recommended food and nutrition policy commitments in LMICs and SIDS in the WPR. Consistent with previous research, we found that political rhetoric for nutrition is unmatched by the resources and institutional structures required to implement and sustain long-term nutrition goals. 33,87,115,116 These findings support the need for strategies to strengthen cross-sectoral governance and accountability for nutrition policy implementation at the country level, and for the strengthening of strategic capacities of policymakers to apply skills in systems thinking, framing and advocacy, coalition-building, and in the development of strong, clear, evidence-based policy content. These findings have relevance for high-income countries also, given progress to adopt a strong approach to obesity, and diet-related NCD prevention policies has likewise been reported as "patchy" and "slow." 8,9,26,32,117

A dilution in political engagement and oversight from political leaders following policy adoption is a principal problem for nutrition and obesity prevention policy, because it reduces the willingness or interest of non-health actors to fully engage in implementation processes longer-term.³³ Limited political support for nutrition is a key reason that nutrition activities are under-resourced, and the resulting lack of impact further compromises commitment.¹¹⁸ Political support can be impeded by competing government development priorities³⁸ or by conflicts between food policies or other policy priorities,

including economic and industry development. 31,102 Additionally, the hierarchical nature of government may limit opportunities for policymakers responsible for nutrition to communicate policy concerns or requests. This review also demonstrated that corporate pressures are likely to negatively influence food and nutrition policy all throughout the policy implementation process, ¹¹⁹ an issue that has been widely reported on by countries, regardless of income status, 120 warranting an urgent need to more closely examine how these industry pressures influence policy agenda setting and design, and reduce political engagement during implementation. Ultimately, true cross-sectoral accountability is likely to require more delegation of responsibilities for nutrition implementation processes to sectors outside of health, 31 and a stronger pass-through of responsibilities against those actions in strategic and budgetary documents. In this regard, other authors have recommended that nutrition policies be adopted under suprasectoral oversight mechanisms (e.g., Cabinet oversight) that can administer high-level coordination and accountability by all sectors, including health. 31,121 Nevertheless, evidence suggests that even these structures are still vulnerable to deficiencies in performance in low-resource settings where there is limited political will for their oversight.86,122

Learning from previous experience, improved policy design, implementation, and framing practices, can help health policymakers and advocates to translate strong political rhetoric for food and nutrition into action. The "systems-wide commitment" of political leaders and managers entails the institutionalization and resourcing of policy responses. 123 as well as their timely and ongoing engagement in in responding to opposing demands, implementation challenges, and changing contextual conditions. 115 One way to elicit systems-wide commitment from policy leaders would be through improved policy framing to better position nutrition as a matter of importance, for instance as a development challenge, economic problem or human rights issue, 118 or by drawing on the "chorus" 124 of external partners with interest in supporting food and nutrition progress (e.g., development partners). 115 More effective engagement and organization of actor networks could be a critical strategy in nutrition policymaking^{35,115} given the huge achievements of the health lobby in tobacco control over the past 20 years. 125

One key insight from our review has been the extension of traditional perspectives on a generic "lack of capacity" for nutrition, ⁶⁹ towards identifying the specific "strategic capacities" that are problematic in nutrition policy implementation. ¹²⁶ For example, mid-level policy actors responsible for nutrition are not always able to communicate concerns or request resources because of the hierarchical nature of government, the low standing of nutrition officers, ³⁵ the lack of leadership at cross-sectoral meetings, or because they lack the confidence or data to present compelling policy problems and ideas to leaders. ^{35,126,127} Our findings suggest that there remains a need to support countries with identifying and building the strategic capacities for nutrition in a targeted way. ⁷⁰ For instance, by lifting the abilities of nutrition policy advocates to better position nutrition policies as a matter of national importance, ¹²⁸ strengthening supervisory and administrative support for those implementing nutrition policies, ⁶⁹

improving power and access to policy leaders, 129 providing visibility over resources to enable delivery, and supporting the development and application of skills in systems thinking, framing and advocacy, coalition-building, 130,131 knowledge translation, and leadership, 87,126,131

Findings from this review include the importance of clear and consistent policy design and content to fostering implementation at all levels. 132 For instance, policy implementation is impaired when there are unclear definitions for defining healthy food, or where there are inconsistencies between nutrition policies and the aims of nonhealth sectors involved in their implementation. 133,134 In many instances, policy definitions and specifications are "watered-down" during policy design phases to meet the demands of food companies or industry-oriented sectors in government. 78,103 The policy sciences emphasize the development of policies that are effective and feasible from a political and operational perspective, 135 and improving policy coherence has been prioritized as a core action towards achieving the UN Sustainable Development Agenda. 136 This suggests that there is opportunity for countries to better engage in evidence-informed policy development processes that identify and address implementation requirements from the outset, for example, by systematically assessing the policies of other sectors to ensure they are coherent with policies aiming to improve nutrition outcomes. 134,137,138 Because most food environment policies require that a range of non-health actors correctly interpret, apply, or enforce them, for instance, food vendors, health workers, local-government officials, school staff, transport companies, sports clubs, environmental health officers, and communications officials, 139,140 efforts to address population nutrition knowledge are likely to be important for improving interpretation and implementation of policies, in conjunction with other measures.⁸⁷

This review also highlights the importance of policy enforcement as a powerful driver to incentivize policy actors to act in alignment with policy intentions. Challenges enforcing obesity and diet-related NCD prevention policies are a problem for both low and high income countries. We found that nutrition and health advocates find it difficult to enforce policy compliance with actors operating outside of their circle of influence, in line with WHO findings that only 30% of countries in the Western Pacific and 53% of countries globally apply any government-led sanctions to food policies.²⁷ These data are consistent with research from other settings reporting the lack of enforcement as a barrier to the effective implementation of policies to restrict marketing¹⁴¹ or maintain healthy school food environments, 43,142 and there is a growing body of evidence demonstrating the ineffectiveness of industry self-regulation. 141,143,144 Lack of enforcement surrounding food environment policy no doubt results from strong corporate opposition to regulatory approaches being adopted in the first instance.

Enforcement is critically important for food policymaking, given industry self-regulation has been found to be ineffective at ensuring compliance. ^{27,119,144} In this review, there were only two references to the role of enforcement at facilitating the implementation of diettreated NCD policy, suggesting that nutrition researchers are acclimatized to the "softer" nature of nutrition policies. ¹⁴⁵ Additionally, there

appears to be a disparity in the way nutrition aspects of food policies are handled by governments compared with the hygiene and safety aspects with there being seemingly no implications for non-compliance with nutrition policies. ^{65,114} This is exemplified by Trade policy, which clearly facilitates enforcement of food safety policies but can itself constraint opportunity to enforce measures that preference local healthy foods or reduce consumption of unhealthy options. ¹⁰² The highly-regulated approaches taken to promote food safety and for tobacco control serve as a useful precedent around the need for a stronger set of policy tools in order to realize nutrition aspirations. ¹⁴⁶

4.1 | Implications for researchers

Recognition of the importance of an enabling policy environment for nutrition outcomes—including obesity prevention—has led to calls to reorient nutrition research towards real-world challenges including the adaptation and implementation of policies. 147 This review has illuminated a number of opportunities for researchers to achieve this. Firstly, through the generation of evidence (nuanced to the country context) that would help to build priority for nutrition among nonhealth actors within government, for instance by building the development and economic imperatives that better position nutrition as a matter of public importance. Second, this review identified a need to develop a more cohesive evidence-base to guide policy development at the national level, including by systematically assessing areas of incongruence across government policy objectives that impede nutrition implementation, potentially drawing on indicators developed for this task at the global and national level. 148 Third, those studies providing the most insight on considerations for policy adoption and implementation were where the authors had established this an aim, and then applied theoretical frameworks to examine how the policy problems were defined and interpreted, how different actors responded to policy objectives, and how policy processes were carried-out in response to those aims. Studies offering broad or oversimplified advice, for example, "build political will," were not as helpful as those offering clear and practical recommendations informed by the literature, and nuanced to country context. For instance, Thow et al.84 highlighted a need for "reframing regulation policies to resonate with dominant economic policy paradigms and the remit of powerful government Ministries," and Reeve et al. 33 put forward that it was "vital to build the collective capacity of nutrition policy-makers and advocates to act in unison to position nutrition as a matter of importance across several sectors." Theory informed exploration of power, framing, instrumentation, and institutions would be useful in further research in this area.

This review also identified a need to build the evidence-base around cross-sectoral accountability mechanisms that can effectively facilitate meaningful dialog or action, including reliable and efficient cross-sectoral policy monitoring and accountability systems, and opportunities for global and regional accountability frameworks to better influence national accountability to food and nutrition policy.

Another option for researchers is to enhance country preparedness for diminishing food industry influence throughout the policy implementation cycle.

4.2 | Strengths and weaknesses

This review has synthesized a diverse policy literature relevant for strengthening nutrition policy implementation in the WPR and in LMICs more broadly. The use of frameworks from political scienceand particularly a specific framework on strategic capacity—has enabled in-depth analysis of key factors that are pivotal to implementation. The study is limited by its geographical focus, as the WPR has a range of potentially unique features, including small population sizes and remoteness. However, the WPR also includes significant diversity that is likely to make the review findings globally relevant for LMICs. Key aspects include a wide range of different cultures and religions, disparity in country size (including many SIDS), and a range of historical contexts (colonial and otherwise). While narrative synthesis is useful for sense-making across a broad range of research questions and methods, the included literature was not gathered systematically and may be incomplete. The omission of high-income countries from this review could be viewed as a limitation, because a lack of action on obesity and diet-related NCD prevention is a problem common to all countries. We did not include the grey literature as a data source, which may have provided richer data on framing of policy problems, policy processes, and impacts.

Due to the multidisciplinary nature of the literature reviewed, it is also possible that some studies were missed, although the iterative nature of the search strategy has likely minimized this.

4.3 | Conclusions

We found key barriers to food and nutrition policy implementation were the perceived lack of priority for nutrition at the country level, and associated difficulties mobilizing and sustaining input from nonhealth sectors over time. There remains substantial opportunity for policy advocates in lower-resource settings to apply problem-framing that can better elicit political and cross-sectoral support and accountability. The findings of this review indicate that it is likely to be beneficial for policy advocates in lower-resource settings to focus on the need for increased accountability from governments for action to address obesity and NCDs. Existing accountability tools, such as the Food Environment Policy Index (Food-EPI) developed by INFORMAS, 149 could prove helpful in this regard, including through effective engagement and organization of actor networks, knowledge sharing, and in highlighting where stronger action is required. An additional focus on building strategic capacities for nutrition, including skills in evidence-use, framing and advocacy, knowledge translation, and leadership, is likely to prove critical in generating increased policy implementation in this area.

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CONFLICT OF INTEREST STATEMENT

No conflict of interest statement.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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