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Article

Rise and demise: a case study of public health nutrition in Queensland, Australia, over three decades

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Summary

This case study describes the delivery and achievements of the public health nutrition programme in Queensland, Australia, over more than three decades. Analysis of publicly available documents related to statewide nutrition policy and programmes from 1983 to 2014 identified key inputs and programme impacts and outcomes, including an increase in fruit and vegetable intake by 1.1 serves per person per day and rates of exclusive breastfeeding for the first 6 months quadrupled. Mapping factors and milestones against a framework on determinants of political priority highlighted correlation with effective nutrition promotion policy and practice. Identified enablers included the influence of policy champions and advocates, quality of governance, focus on whole-of-population approaches, and periods of political will and economic prosperity. Key barriers included changes of ideology with government leadership; lack of commitment to long-term implementation and evaluation; and limited recognition of and support for preventive health and nutrition promotion. The case study shows that a coordinated, well-funded, intersectoral approach to improve nutrition and prevent chronic disease and malnutrition in all its forms can be achieved and produce promising impacts at state level, but that sustained effort is required to secure and protect investment. Political support for long-term investment in nutrition is essential to reduce the high cost of all diet-related diseases. Public health leadership to better prepare for risks around political cycles, secure adequate resources for evaluation, and better communicate impacts and outcomes may help protect future investments and achievements.

Lay Summary

Poor diet causes a large proportion of the disease burden in Australia and globally. Better nutrition reduces societal impacts of diet-related disease and healthcare costs, yet government investment in programmes aimed at improving nutrition is low globally. This paper presents a case study of the

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statewide nutrition promotion programme in Queensland, Australia, over three decades. It explores how and why nutrition issues become a priority, or not, for governments, and any impacts of relevant investment. We searched for publications on nutrition policy actions, promotion programmes and evaluations from 1983 to 2014. Mapping these against a framework of factors influencing political priorities highlighted potential reasons for the 'rise' and 'demise' of strategic nutrition policy action, and helped identify key enablers of, and barriers to, ongoing nutrition strategies at a programme level. The case study shows that a coordinated, well-funded, inter-sectoral approach delivered promising impacts, but also that ongoing efforts—including consistent evaluation, coordinated communication and constant advocacy by a range of policy champions—is needed to improve sustainability of nutrition policy and programmes to address all diet-related diseases.

Key words: nutrition, policy, health promotion programme, evaluation, political economy

INTRODUCTION

Poor diet is the leading preventable risk factor contributing to the burden of disease in Australia and globally (GBD 2017 Diet Collaborators, 2019; GBD 2019 Risk Factors Collaborators, 2020). Australian health survey data (Australian Bureau of Statistics, 2014) show <4% of respondents consume diets consistent with Australian Dietary Guidelines (National Health and Medical Research Council, 2013). More than two-thirds of Australian adults (67%) and 25% of children (5 – 17 years) are overweight or obese (Australian Bureau of Statistics, 2018b). Comparable data are even worse for Aboriginal and Torres Strait Islander peoples (Australian Bureau of Statistics, 2015b). Indigenous children, particularly in remote communities, are experiencing undernutrition and growth faltering alongside increasing obesity and risk of chronic disease in later life (National Health and Medical Research Council, 2000; Ruben, 2009; Australian Bureau of Statistics, 2015b). Better nutrition across the lifespan will reduce this burden of diet-related disease and reduce the cost burden on Australian governments (National Health and Medical Research Council, 2013). Despite this, there has been extensive disinvestment in nutrition promotion and primary prevention population health programmes in national and state/territory jurisdictions since the first decade of this century (Lee, 2012; Moore and Hurst, 2012; Moore, 2013; Duckett *et al.*, 2014; Lee and Minniecon, 2014; Vidgen *et al.*, 2017).

With the aim of better understanding how and why nutrition issues become a priority, or not, for government investment, we undertook a case study of the statewide public health nutrition programme in Queensland over three decades, with a focus on inputs, achievements, barriers and enablers. Rarely are such 'real world' efforts to improve population nutrition and health across a large jurisdiction over an extended period reported in the literature, yet such case studies can provide valuable insights to help inform future policy and investment.

Setting and context

Australia is a federation of states and territories. State and territory governments are responsible for the delivery of hospital services and the federal government funds primary care and the Pharmaceutical Benefits Scheme. Responsibility for the delivery of other healthcare, e.g. other aspects of pre-hospital care, universal monitoring and screening, and preventative healthcare are less clearly defined. State health departments vary in structure and processes for programme development, monitoring and surveillance, but all have a central corporate office that develops policy, and geographically defined divisions responsible for service delivery.

With an area of over 1.7 million square kilometres, Queensland is the second largest, and most decentralized, state in Australia (Queensland Government, 2017). The Queensland population of around 5.1 million is about one-fifth of the total Australian population (Australian Bureau of Statistics, 2021). With growth annually around 2.2%, Queensland's population nearly doubled between 1980 and 2014; 70% of which was concentrated in the south-east region (Australian Bureau of Statistics, 2012). Aboriginal and Torres Strait Islander people represent about 4.6% of the state's population and 28.7% of the Indigenous population of Australia (Australian Bureau of Statistics, 2018a). Indigenous and socioeconomically disadvantaged Queenslanders bear the greatest burden of diet-related ill health in the state (Queensland Health, 2018).

Australia's healthcare system involves a complex web of public and private providers, settings and funding mechanisms. In addition to public hospitals, federal and state governments support a range of health services, including population health programmes, community health services, health and medical research, Aboriginal and Torres Strait Islander health services, mental health services, and health infrastructure (Australian Institute of Health and Welfare, 2018).

METHODS

To develop this case study, we searched for publications on nutrition promotion programmes, nutrition policy actions and evaluations in Queensland for the period 1983–2014. The Year 1983 was selected as the start date because the results of the first national dietary survey for 40 years were published that year, evincing and prompting a growing interest in population level nutrition; the end date was 2014 as in that year the newly elected federal government dissolved the national preventive health agency and partnership (described below), a significant 'end point' after a period of unprecedented investment in nutrition promotion nationally.

We searched for peer-reviewed and publicly available grey literature using the terms 'Queensland' AND 'diet*' 'nutr*' 'food' AND 'community' 'progr*' 'project' 'intervention' 'strat*' 'polic*' 'prevent*' 'eval*' 'review' 'Aborig*' 'Torres Strait' 'Indig*'. Electronic databases included the Cochrane Library, MEDLINE, MEDLINE In-Process, EMBASE, CINAHL and Web of Science: Science Citation Index, Social Sciences Citation Index and Conference Proceedings Citation Index. Websites of key government departments/agencies and other organizations also were systematically searched, including Council of Australian Governments; Australian Government and Queensland departments of health, education, justice and community services; and the Australian Indigenous Health*Info*Net. The Google search engine was used to identify relevant media reports. A physical search of publicly available documents held by the authors was also conducted.

Search and data extraction methods followed those used in the identification and analysis of state/territory nutrition policies as one component of the scoping study to inform development of a new nutrition policy for Australia (Lee *et al.*, 2013), as detailed elsewhere for national nutrition policies specifically (Lee *et al.*, 2020). Data extracted included the scope, format, evidence base, coordination mechanisms and key nutrition policy issues and actions. Documents were organized chronologically to develop a timeline of state and national nutrition policy developments (Supplementary File 1). For evaluations, extracted data included reported changes in awareness, attitudes and knowledge, and/or behaviour, nutritional status and/or risk factors.

'Milestones' relevant to nutrition policy and promotion activity, including publication/commencement of key policies and programmes, workforce developments and changes of government, during the period also were recorded.

In an effort to identify reasons for the 'rise' and 'demise' of strategic, well-resourced nutrition promotion policy and practice in Queensland data were analysed with reference to two established frameworks (Shiffman and Smith, 2007; Schell *et al.*, 2013). Milestones and key factors identified by the authors as shaping political support for nutrition initiatives in each decade were thematically analysed, using factors identified in Shiffman and Smith's framework on determinants of political priority (Actor Power, Ideas, Political contexts and Issue characteristics) as deductive codes (Crabtree and Miller, 1992). The perceived levels of evidence were agreed and results were colour-coded to aid interpretation. Similarly, enablers and barriers to programme implementation were agreed and then categorized by the domains of Schell *et al.*'s framework of public health programme capacity for sustainability (Organizational capacity, Programme adaptation, Programme evaluation, Communications, Strategic planning, Public health impacts, Funding stability and Political support) (Schell *et al.*, 2013).

Senior nutritionists and public health staff ($n = 16$) involved in the development of any of the five successful nutrition business cases to the Queensland Government identified in the literature review (described below) were invited to contribute to interpretation of results. Seven are co-authors of this paper; another five provided written input on earlier versions of this manuscript, and helped identify key barriers and success factors (but did not wish to be identified as authors for professional reasons related to their current employment); two declined to participate due to time constraints; and two could not be contacted.

RESULTS

Public health nutrition milestones

Key national and Queensland milestones in public health nutrition (policies, strategies, programmes and political events) identified during the literature search are presented chronologically in Supplementary File 1. Significant early developments included investments in nutrition workforce and programmes in the Northern Territory, Victoria and Western Australia; release of the National Food and Nutrition Policy (NFNP) in 1992 (Commonwealth Department of Health Housing and Community Services, 1992); release of key publications defining the extent of the nutrition and diet-related health problems affecting Australia (Crowley, 1992; Lester, 1994); and a growing evidence base about what could be done to prevent these conditions (National Health and Medical Research Council, 1995, 1997, 1999), including by Aboriginal communities (Lee *et al.*,

1994, 1995; National Health and Medical Research Council, 2000).

The NFNP was designed to support sustainable action through the entire food and nutrition system (food production, processing and distribution, and nutrition knowledge and education), underscored by three pillars of health and wellbeing, equity and ecological sustainability. Its fundamental goal was to help make healthy choices easy choices for all Australians. An evaluation of the first 3 years of the NFNP showed promising results, although no long-term resourcing was provided for implementation (Commonwealth Department of Health and Family Services, 1998). Phase 1 of the NFNP was implemented between 1992 and 1996. Phase 2 began in 1998, when the national Strategic Intergovernmental Nutrition Alliance (SIGNAL) was established to oversee the development of a national public health nutrition strategy *Eat Well Australia: An agenda for Action in Public Health Nutrition, 2000–2010* (*Eat Well Australia*), and companion *National Aboriginal and Torres Strait Islander Nutrition Strategy and Action Plan* (*NATSINSAP*) (National Public Health Partnership, 2001a,b).

The goal of *Eat Well Australia* was to improve the health of all Australians through improving nutrition and reducing the burden of diet-related disease (National Public Health Partnership, 2001a). It included three major domains: health gain; capacity building; and strategic management. SIGNAL played a major role in coordinating the implementation of *Eat Well Australia* (National Public Health Partnership, 2003b), and in response, most state and territory governments developed public health nutrition strategies and/or action plans that reflected their regional priorities and policy imperatives (National Public Health Partnership, 2003b).

Eat Well Australia was never evaluated formally. *NATSINSAP* was evaluated by the Commonwealth Department of Health in 2010; findings were only made public in 2015 following a Freedom of Information request (Urbis, 2010). *Eat Well Queensland*, at mid-point (Queensland Public Health Forum, 2007), and the broader *Tasmanian Food and Nutrition Policy* (Tasmanian Department of Health and Human Services, 2004) were the only state approaches during the period of interest to have been evaluated.

The rise: early nutrition work in Queensland

A detailed historical narrative of the development of public health nutrition work in Queensland from the 1980s to 2012 is in Supplementary File 2; it is summarized here to highlight key milestones, workforce developments and investments.

In Queensland in the early 1990s there was a strong clinical dietetic focus to nutrition activities, and most nutrition promotion work was conducted by non-government organizations (NGOs) and the academic sector. An increasing number of community dietitian/nutritionist positions were created in Health Department districts, ad hoc according to local priorities and with little coordination (Queensland Public Health Forum, 2007). By 2000, around eight full time equivalent (FTE) positions existed throughout the state.

At the same time a series of seminal public health nutrition policy documents were developed, initiating a new focus on improving food environments to help drive population dietary change. In 1992, the state's first public health nutritionist, appointed in the Peninsula and Torres Region (following a 'centralization' of the state's Health Service Districts to regions), helped develop a public health nutrition strategy for northern Queensland (Torres Strait and Northern Peninsula Area Health Council, 1996; Groos *et al.*, 1997; Retail Stores Unit, 2001; D'Abbs *et al.*, 2008). The Queensland Aboriginal and Torres Strait Islander Nutrition Strategy was published 3 years later (Queensland Health, 1995), providing a blueprint for broader nutrition action throughout the state (National Health and Medical Research Council, 2000).

The establishment of a nutrition epidemiology position within Queensland Health led to publication of several key documents that helped make the case for a focus on nutrition issues and capacity investment (Supplementary File 1). The latter half of the 1990s also saw the development and delivery of group-based community programmes to more cost-effectively address obesity and chronic disease, such as *Lighten Up to a Healthy Weight* (later *Lighten Up to a Healthier Lifestyle*) (Queensland Health, 2004; Stubbs *et al.*, 2012) and the Indigenous *Healthy Weight Program* (later named *Living Strong*) (Dunn and Dewis, 2001). Positive outcomes from these programmes demonstrated clear return on the investment in nutritionists (Queensland Health, 2003).

Alignment of national and state policy platforms saw the establishment of several key nutrition roles and initiatives from 1998 (Supplementary File 1), including a statewide public health nutrition position. In Queensland this new commitment to public health nutrition was driven and evidenced by increased focus on demonstrated outcomes and evidence-based practice; an organizational restructure including development of a statewide public health service for health protection, promotion and prevention; and a clear vision and strong leadership (Steele *et al.*, 2000). From 2005, the development, implementation and evaluation of *Eat*

Well Queensland—in response to the national policies *Eat Well Australia* and *NATSINAP 2000–2010*—proved to be a foundation for coordination of nutrition activities and service delivery throughout the state. A summary of key features of *Eat Well Queensland* is included in Figure 1.

Over the next 5 years, five successful submissions for resources to implement *Eat Well Queensland* and the *Queensland Strategy for Chronic Disease* (Queensland Health, 2005) generated over $11M of new funding per annum to support the establishment of 105 new health and nutrition promotion positions (nearly one-third of which were focussed on improving Aboriginal and Torres Strait Islander health inequities). This nearly doubled the workforce to develop, deliver and evaluate nutrition and healthy weight programmes and projects across the state. Regionally there was a very strong focus on service delivery, particularly in the areas of early life nutrition, promoting healthy eating, group-based behaviour modification and Indigenous nutrition (Supplementary File 3). State-wide approaches included fostering supportive physical and social environments, social marketing and communication, community-based capacity building and community-based programmes, targeted risk modification programmes and increasing organizational capacity (Queensland Health, 2008b; Queensland Health Division of the Chief Health Officer, 2010). Key initiatives included the *Go for 2 and 5™* fruit and vegetable promotion social marketing campaign, *Smart Choices: Healthy Food and Drink Supply Strategy for Queensland Schools* (Education Queensland and Queensland Health, 2004; Queensland Health and Queensland Department of Education and Training, 2009; Dick *et al.*, 2012) and *A Better Choice*, which extended healthy food procurement and supply strategies to hospitals and other health facilities across the state (Queensland Health, 2007, 2010b; Miller *et al.*, 2015). In 2006, the Queensland Premier's Obesity Summit led to establishment of the Premier's Eat Well Be Active Taskforce, a whole-of-government commitment to promotion of nutrition and physical activity for obesity prevention.

By 2009, 130 FTE health professionals—nearly half the then total nutrition/dietetic workforce in Queensland—were implementing evidence-based primary prevention interventions, with a total programme budget of $17M per annum. In 2011, additional funding under the National Preventive Partnership Agreement (Council of Australian Governments, 2008; Department of Health, 2012) of more than $50 million over 4 years was committed in Queensland to 12 specific nutrition projects, a healthy weight social marketing campaign and monitoring and surveillance under specific programmes including *Healthy Children, Healthy Communities* and *Healthy Workers*, with the promise of reward payments of more than $40 million from 2013 if specific performance targets were met. By 2012 over 200 FTE primary prevention specialists were delivering evidence-informed services and programmes throughout Queensland.

Coordination of the workforce through statewide governance structures and communication mechanisms to support development and implementation of Priority Area Plans was necessary to promote synergies and avoid duplication; the governance structure was dictated by Departmental organization. A career pathway was established, so that community/public health nutritionists could enter the workforce as a Health Promotion Practitioner HP3 and advance to HP8. Queensland Health also supported the development of a Technical and Further Training Certificate IV course in Aboriginal and Torres Strait Islander Primary Care (Nutrition Promotion) and offered two scholarships for the resultant Advanced Health Workers to study Nutrition and Dietetics at Bachelor level.

Success: impacts and outcomes

Available results of evaluations are presented in Supplementary File 3. Process, impact and outcomes were standardized according to achievement of programme level aims, objectives and strategies, and colour-coded according to the level of success in meeting these targets.

The main source of evaluation data was the midpoint review of *Eat Well Queensland* (EWQ) in 2008. It was conducted to identify achievements, gaps, barriers and emerging issues, assessing 209 EWQ-related project reports (Queensland Public Health Forum, 2007). Further, 31 key stakeholders were interviewed, 83 responded to an online survey and 150 attended a statewide practitioner workshop (Queensland Public Health Forum, 2007). Where project strategies had been implemented and evaluated as intended, several positive impacts and outcomes were apparent at project level (Supplementary File 3). Several successful projects were adopted interstate, such as *Lighten Up* and *Living Strong* which were accredited nationally as effective Lifestyle Modification Programmes for prevention of Type 2 diabetes. However, not all projects were evaluated at outcome level, mainly due to lack of dedicated funding and resources being provided (Supplementary File 3). The success of some projects was hindered by structural barriers, such as the lack of market availability of healthy food options suitable for vending machines, which highlighted the ground breaking work

Vision: Better food, better nutrition, better health. In ten years the health status of Queenslanders will be measurably improved, particularly for Indigenous Queenslanders and other vulnerable groups.

Aim: To improve the health of all Queenslanders through better food and nutrition

Strategies: The aim will be achieved by implementation, evaluation and dissemination of best-practice initiatives, research and innovation as outlined in the action areas below.

Health Gain	
Enhance nutritional status	• Increase the proportion of the population consuming a diet consistent with the Dietary Guidelines for Australians • Increase the nutrient density of the diet
Prevent chronic disease	• Achieve and maintain a healthy weight • Prevent diabetes, cardiovascular disease and some types of cancers
Priority Groups	
Priority population groups	• Aboriginal and Torres Strait Islanders • Vulnerable groups
Critical lifecycle stages	• Mothers and infants • Childhood growth and development
Priority action areas and key issues to be addressed	
Food supply	• Costs and availability • Equity issues • Food safety and standards • Food service settings • Rural/remote issues
Promote healthy eating: increase demand for healthy food	• Promote consistent messages • Social marketing and advertising
Increase consumption of fruit and vegetables	• Address supply issues • Promote demand
Enhance the health of mothers, infants and children	• Well-nourished mothers and infants • Promote breastfeeding • Healthy child growth and development
Achieve and maintain a healthy weight	• Decrease energy density of diets • Increase physical activity
Develop infrastructure and capacity	• Management, implementation and evaluation • Research and development • Human and financial resources

Member organisations of Queensland Public Health Forum

The Australasian Faculty of Public Health Medicine (Qld); The Australian Health Promotion Association (Qld); the Australian Institute of Environmental Health (Qld); The Australian Department of Health and Ageing (Qld); The Qld Department of Aboriginal and Torres Strait Islander Policy; The Qld Department of Families; Diabetes Australia (Qld); Education Queensland; James Cook University; The Local Government Association of Queensland; The National Heart Foundation of Australia (Qld); The Public Health Association of Australia (Qld); The Queensland Aboriginal and Islander Health Forum; The Queensland Cancer Fund; The Queensland Centre for Public Health (Queensland University of Technology, Queensland University; Griffith University); the Queensland Council of Social Service; the Queensland Divisions of General Practice; and Queensland Health.

Criteria applied to assess potential actions as 'Smart Buys'

Best practice planning for interventions follows the National Public Health Partnership portfolio approach (NPHP 2001a).

- Support for the intervention as assessed by the NHMRC level of evidence (NHMRC 2001)
- Has the potential for significant health gain (likely to contribute to reduction of burden of disease; is practical, generalizable, sustainable; is likely to be acceptable to the target group);
- Addressed risk assessment (including relative risk of maintaining the status quo i.e. doing nothing);
- Is supported by expert consensus opinion (no longer included in NHMRC level of evidence scale);
- Builds on past investment;
- Has potential for collaboration (inter-disciplinary, intra- and inter- agency);
- Supports a partnership approach with consumers within a community development framework;
- Addresses socio-environmental determinants of health;
- May acknowledge new ideas or methods (i.e. is innovative);
- Has the potential to address social justice and equity issues;
- Has the potential to deliver 'early wins' i.e. health gain achieved within a short to medium time frame.

Fig. 1: Overview of Eat Well Queensland 2002–12.

that was being done and the potential opportunities created (Miller *et al.*, 2015).

Outcomes

Among available programme level outcomes, from 2003 to 2008 exclusive breastfeeding for the first 6 months increased from 3.1 to 13.3%, and the proportion of infants breastfed at 1 month and 6 months of age had increased by over 5%, to 83 and 63%, respectively (Queensland Health, 2010a). From 2004 to 2010, the proportion of adults achieving physical activity recommendations increased by 34–53% (Queensland Health, 2010a). Fruit and vegetable intake increased by 1.1–4.6 serves per person per day from 2005 to 2007, exceeding *Go for 2 and 5*™ targets (Queensland Health, 2008a). As measured independently, these results represented an additional $9.4 million of sales through greengrocers in Brisbane alone in the first month of the Queensland *Go for 2 and 5*™ campaign (Horticulture Australia Ltd, 2006).

In 2007, the rate of measured healthy weight among children in Queensland was 2–3% higher than in other states where comparable data were available (Abbott *et al.*, 2008; Queensland Health, 2008a, 2010a). Available time-series data equated to an estimated 3000 less children becoming overweight per year and 1200 fewer future cases of Type 2 Diabetes per year by 2015. In 2007, the comprehensive *Eat Well Be Active* healthy weight campaign, which incorporated *Go for 2 and 5*™ and physical activity promotion, won the state's marketing effectiveness award (The Hon Stephen Robertson Minister for Health, 2007). In recognition of broader achievements, Queensland also received the Gold Award from the Australia and New Zealand Obesity Society in 2008, 2009 and 2011 (Australian and New Zealand Obesity Society, 2011a,b).

The demise

In 2006, national governance changes following an internal review resulted in the termination of SIGNAL (National Public Health Partnership, 2003a). There was also growing awareness of critical gaps in data relating to nutrition and health in Australia; the most recent national dietary data were more than 20 years old at that time (Australian Bureau of Statistics, 1995). The national Indigenous health *Close the Gap* strategy did not include a focus on nutrition (Lee *et al.*, 2009; Browne *et al.*, 2014). Data issues were one reason for this; e.g. there had been no attempt to estimate the total contribution of poor diet to burden of disease in either the whole population or Indigenous Australians at that time (Begg *et al.*, 2007; Vos *et al.*, 2007). Instead, only self-reported fruit and vegetable intake data, which were much higher than assessed by more objective methods (Lee, 2018), were used in decision making (Lee *et al.*, 2009; Browne *et al.*, 2014).

Also in 2006, in response to clinical malpractice at a regional hospital and the subsequent Queensland Public Hospitals Commission of Inquiry (Davies, 2005), several Queensland Health Senior Executives were replaced (Hon Geoffrey Davies AO, 2005) and Queensland Health shifted towards a greater focus on clinical issues. Health promotion, including the nutrition and physical activity team, was moved from the corporate office to a suburban location, reducing access to decision makers. This heralded several governance changes in Population Health. For example, responsibility for fruit and vegetable, breastfeeding and healthy weight social marketing campaigns was transferred to the Queensland Health Corporate Communications unit. Over the next 12 months dedicated funding and the paid media components for these campaigns ceased. Regional staff continued local support activities where resources were available. However, monitoring data showed that reported intake of fruit and vegetables reduced from this time (Queensland Health, 2010a, 2012). This may also have reflected increased cost of living: in 2005 only 6% of Queenslanders reported that price was a barrier to consumption but this had increased to 29% by 2008 (Lee, 2009). From 2010, under the National Public Health Partnership, the focus on social marketing shifted to support for the national *Measure Up* and subsequent *Swap It* campaigns (Australian Better Health Initiative, 2009a,b; Diabetes Australia Queensland, 2014) with their focus on individual responsibility. Queensland did invest in the Aboriginal and Torres Strait Islander focussed 'Tomorrow People' campaign (Australian Better Health Initiative, 2009b); however, this was never evaluated.

Although measured rates of healthy weight in both adults and children had shown improvement by 2007, subsequent self-reported rates of overweight/obesity in adults increased to be closer to measured rates (Queensland Health, 2010a, 2012), which may have reflected increased awareness of actual body weight. In 2008, community consultations were undertaken to inform potential action to restrict television advertising of energy-dense nutrient-poor foods and drinks to children (Queensland Government, 2008) but the results were never released publicly. In 2009, the National Health and Hospitals Reform Commission's final report was published (National Health and Hospitals Reform Commission, 2009). This triggered significant changes in the governance frameworks for the delivery of health

care in Queensland, particularly towards a more decentralized model with decision-making on priorities and programmes devolved to local Health and Hospital Networks. In 2011, the Queensland Health and Hospitals Board Act was enacted (Queensland Government, 2011), and as a consequence, the Bligh Labor government offered voluntary redundancies to all Corporate Office staff, which saw the loss of several senior nutrition positions.

The new decentralized model aligned well with the 'small government', neo-liberal philosophy of the incoming conservative government in 2012. The conservative Liberal National Party (LNP) Health Minister Lawrence Springborg announced cuts to regional jobs in nutrition, health promotion and Indigenous health, with public comments that the state's public health 'campaigns' around obesity had been 'piecemeal' and had 'grossly failed' (Diabetes Queensland, 2012). He stated that he had asked for evidence of the effectiveness of the preventive health programmes, but that no evidence could be provided. Minister Springborg confirmed the need for 'Queensland Health to return to its core business—looking after the sick', yet also that the government was committed to 'health prevention campaigns and preventable health' and that they would be 'moving more towards evidence-based medicine' (Diabetes Queensland, 2012; Moore, 2013). Minister Springborg also called on the national government to provide 'long-promised increases in support for primary and preventive health through the Australia-wide "Medicare Local" network' (Diabetes Queensland, 2012), foreshadowing political battles around national and state jurisdictional responsibility for preventive health and 'cost shifting'. The government called for a Commission of Audit, the final report of which re-enforced hospitals as the core business of state/territory governments, and preventive health as the role of primary health care, and therefore, the responsibility of the Commonwealth Government (Queensland Commission of Audit, 2013; Colley, 2016).

As part of the consequent political and structural reforms, over 150 nutrition, health promotion and preventive Indigenous health positions in Queensland Health were made redundant by late 2012, raising concerns about how the state would continue to tackle the obesity and diet-related chronic disease epidemic (Lee, 2012). Funding for health and nutrition promotion was also withheld from non-government organizations (NGOs), which had been instrumental in orientating health services towards primary prevention. These NGOs were prevented from speaking to the media with the introduction of 'gag clauses' in funding contracts providing more than 50% of the organization's income from public sources (Hurst, 2012).

An audit of the nutrition workforce published in 2017 (Vidgen *et al.*, 2017) showed that there had been a 90% reduction in the number of nutrition prevention positions funded by the Queensland Government between 2009 (137 FTE) and 2013 (14 FTE). In 2013, 313 specialist ($n = 92$) and generalist ($n = 221$) practitioners were identified as potentially working in nutrition prevention throughout Queensland. However, a total of only 30 permanent staff indicated that over 75% of their work focussed on prevention. This included the 14 FTE funded by the Queensland Government and an additional 16 FTE from other sectors. Generalist health promotion officers did not consider themselves part of the nutrition workforce. The audit found the disinvestment by the Queensland Government was not compensated for by other sectors, and left marked deficits in community and public health nutrition capacity (Vidgen *et al.*, 2017; Croyden *et al.*, 2018).

At a national level, in 2014, in its first federal budget, the newly elected Abbott Government announced the dissolution of the Australian National Preventive Health Agency and the National Preventive Health Partnership (Australian Government, 2014), leaving a veritable vacuum in preventive health and nutrition in Australia, and particularly in Queensland (Croyden *et al.*, 2018; Lee and Ride, 2018; The Australian Prevention Partnership Centre, 2021).

Political prioritization of nutrition initiatives

Mapping the perceived level of evidence of influential factors (as reported above and in Supplementary File 3) against a framework on determinants of political priority (Shiffman and Smith, 2007) visually demonstrates how multiple factors contributed to the observed rise and demise in nutrition promotion policy and practice in Queensland. Table 1 shows the coalescence of factors peaking in the late 1990s and then decreasing in the early 2010s.

Enablers and barriers

Key enablers of, and barriers to, successful nutrition promotion policy and practice in Queensland were identified by consensus and are listed in Table 2. Among the most significant enablers were the quality of governance and influence of policy champions and advocates; whole-of-population approaches; a commitment to evaluation, enabling demonstration of outcomes; and periods of political will and economic prosperity. Key barriers or hurdles included changes of government (and

Table 1: Factors shaping political priority for nutrition initiatives in Queensland, categorized by elements of the framework for determinants of political priority for global initiatives (Shiffman and Smith, 2007)

	Description	Factors shaping political priority	1980s Nat	1980s State	1980s Reg	1990s Nat	1990s State	1990s Reg	2000s Nat	2000s State	2000s Reg	2010s Nat	2010s State	2010s Reg
Actor power	The strength of the individuals and organisations concerned with the issue	1 Policy community cohesion: the degree of coalescence among the network of individuals and organisations that are centrally involved with the issue at the national/state/regional level	Low	Low	Low	Medium	Medium	High	High	High	High	Medium	Medium	High
		2 Leadership: the presence of individuals capable of uniting the policy community and acknowledged as particularly strong champions for the cause	Medium	Medium	High	Medium	High	High	High	High	High	Medium	Medium	Medium
		3 Guiding institutions: the effectiveness of organisations or coordinating mechanisms with a mandate to lead the initiative	Low	Low	High	Medium	Medium	High	High	High	High	Medium	High	High
		4 Civil society mobilisation: the extent to which grassroots organisations have mobilised to press national, state and regional political authorities to address the issue at state level	Low	Low	Medium	Medium	Medium	Medium	High	High	High	High	Medium	Medium
Ideas	The ways in which those involved with the issue understand and portray it	5 Internal frame: the degree to which the policy community agrees on the definition of, causes of, and solutions to the problem	Low	Medium	Medium	Medium	Medium	High	High	High	High	High	High	High
		6 External frame: public portrayals of the issue in ways that resonate with external audiences, especially the political leaders who control resources	Low	Low	Medium	Medium	Medium	Medium	Medium	High	High	Medium	Medium	Medium
Political contexts	The environments in which actors operate	7 Policy windows: political moments when national conditions align favourably for an issue, presenting opportunities for advocates to influence decision makers	Low	Low	Low	Medium	Medium	Medium	High	High	High	Medium	High	Low
		8 Governance structure: the degree to which norms and institutions operating in a sector provide a platform for effective collective action	Low	Low	Medium	Medium	Medium	Medium	High	High	High	Medium	Low	Low
Issue character-istics	Features of the problem	9 Credible indicators: clear measures that show the severity of the problem and that can be used to monitor progress	Medium	Medium	Medium	High	High	High	High	High	High	High	High	High
		10 Severity: the size of the burden relative to other problems, as indicated by objective measures such as mortality levels	No data available	No data available	No data available	Medium	Medium	High	High	High	High	High	Medium	Medium
		11 Effective interventions: the extent to which proposed means of addressing the problem are clearly explained, cost effective, backed by scientific evidence, simple to implement, and inexpensive	Low	Low	Medium	Medium	Medium	High	High	High	High	Medium	Medium	Low

Perceived level of evidence of factors

Colour	Level
Red	Low
Orange	Medium
Green	High
Blue	No data available

ideology) and leadership; lack of commitment to long-term implementation and lack of funding for evaluation and dissemination of results; and limited recognition of the importance of, and public and political support for nutrition promotion and chronic disease prevention.

DISCUSSION

All countries of the world are now confronting the costly epidemic of malnutrition in all its forms (Development Initiatives, 2018; Swinburn *et al.*, 2019; Bonow *et al.*, 2020). This is even more urgent during the coronavirus pandemic, given the increased mortality of those with obesity and diet-related co-morbidities (Sattar *et al.*, 2020). The WHO has identified that failure to tackle obesity and poor diet is not a failure of individual will power, but a failure of political will at the highest level (World Health Organization, 2011).

The results of this case study clearly illustrate what can be achieved when political will and organizational commitment is present, but also highlight the vulnerability of nutrition and preventive health investments otherwise. Application of Shiffman and Smith's framework (Shiffman and Smith, 2007) clearly shows that political support for policy action is more likely when initiatives share features in all four categories, as evidenced in the 2000s in Queensland (Table 1). Demonstrated outcomes of increased investment in the nutrition workforce and establishment of best practice models bolstered the 'Issue characteristics' of the framework through the late 1990s and into the early 2000s. Alignment of national and state policy platforms (and government ideologies) opened policy windows and facilitated governance structures and leadership that enabled a more strategic commitment to public health nutrition in Queensland from 1998. The Premier's Obesity Summit and subsequent establishment of the Eat Well Be Active Taskforce in 2006 were evidence of political desire to respond to escalating obesity rates and bolstered resourcing for nutrition projects and campaigns. Simultaneously, effective public health nutrition coalitions, entrepreneurs and champions emerged, armed with and contributing to a growing evidence base about the severity of nutrition and diet-related health problems and effective interventions to address them, supporting the case for population-wide action to improve nutrition. 'Actor power' factors also peaked in the 2000s, exemplified by the cohesion of the Queensland Public Health Forum in developing *Eat Well Queensland*, and establishment of guiding groups to lead implementation. However, subsequent government and governance changes occurred at both national and state levels resulting in unfavourable political conditions for nutrition promotion and chronic disease prevention, and a shift in focus in Queensland Health to clinical issues. This closed the policy window and led to disinvestment in preventive nutrition programmes and termination of positions.

The main stated reason for the abolition of nutrition promotion and preventive health services in Queensland was that there was no evidence of effectiveness, despite clear impacts and several outcomes reported in multiple sources, including in departmental publications such as the Chief Health Officer's Reports (Queensland Health, 2008a, 2010a, 2012). There was also lack of acceptance of the evidence base of the important role of diet in health. This suggests a philosophical objection to investment in preventive health contributed to this decision. Further, available evidence clearly demonstrates that long term, concerted health promotion effort is required to achieve sustained health improvements (Roberto *et al.*, 2015b), and it could be argued that the nutrition programme had been given insufficient time to achieve such ambitious improvements. Given this, it is notable that many promising achievements had been realized in a very short time frame (Supplementary File 3). Nevertheless, the nature of prevention activities is that they will likely yield benefits in a future period beyond the current political cycle, and may therefore be seen by governments as less recognized than investment in clinical treatment (Roberto *et al.*, 2015b). The state government's wholescale shift to focussing on clinical issues following the Queensland Public Hospitals Commission of Inquiry in 2005, and failure to publicly release the findings of community consultations regarding restriction of television advertising of energy-dense nutrient-poor foods and drinks to children in 2008 (Queensland Government, 2008), reflected the changing political context and reduced political interest in preventive health action at state level.

The outcomes from this case study are similar to many others internationally that have shown that evidence on its own is not enough to influence policy decisions (Flitcroft *et al.*, 2011; Sanderson, 2011; Macintyre, 2012; Oliver *et al.*, 2014). Active steps need to be taken to generate political will (Catford, 2006; Lawrence and Worsley, 2007). The gaps identified by the application of the Shiffman and Smith's framework highlighted that actor power was weakened through a decreasing number of policy champions, which resulted in decreased policy community cohesion and limited mobilization of civil society. Issue characteristics suffered when gaps were present in national and state data. In addition, limited action was occurring around understanding how nutrition problems and solutions could be

Table 2: Identified enablers and barriers, categorized by domains of a framework of public health programme capacity for sustainability (Schell *et al.*, 2013)

Domain	Enablers	Barriers
Organizational capacity	• Influence of informed champions and effective advocates, especially within the health department • Concerted, sustained effort over a number of years	• Change of leadership • Challenges in coordinating a diverse, statewide investment including rapid growth in workforce
Programme adaptation	• Linkages with chronic disease prevention and management with focus on the health of Aboriginal and Torres Strait Islander people • Focus on obesity in the media, and flexibility to align nutrition priorities under the obesity banner	• Failure to recognize primary prevention in the continuum of care, as a support for clinical treatment and management (75) • Lack of flexibility to respond to community needs outside the focus of EWQ compromised the extent to which Health Service Districts championed other local priorities.
Programme evaluation	• Quality evaluation framework, at process, impact and outcome level	• Lack of dedicated funding for evaluation, and dissemination of results
Communications	• Good governance, including steering groups and expert advisory groups • Professional management of community nutrition work by senior public health nutritionists	• Loss of control over social marketing programmes • Public servants unable to use media • Organizational line management of community nutrition workforce was by managers who were not familiar with Eat Well Queensland./the strategic intention or benefits. • No formal communication links to clinicians • Limited formal communication with medical practitioners who have a strong influence on decision makers.
Strategic planning	• Strategic alignment of focus with departmental priorities • Clear, detailed implementation plan focussing on outcomes, including roles, responsibilities, timeframes • Multi-strategy, evidence-based broad-scope approach that combined a focus on upstream, environmental determinants	• Lack of a comprehensive national food and nutrition monitoring and surveillance system to support reliable state and regional estimates • Administrative processes detracted from capacity to deliver projects and services • Community and public health nutrition work was not routinely included within Health Service District plans.
Public health impacts	• Whole-of-population approaches as well as segmentation and targeting to the most vulnerable groups, with a strong focus on Aboriginal and Torres Strait Islander nutrition • An effective mix of top-down and bottom-up projects with demonstrated outcomes	• Limited departmental recognition of the central role of nutrition intervention for both the prevention and management of obesity and chronic disease • Limited recognition of the wider nutrition issues beyond obesity, including infant feeding, healthy child growth and development and healthy ageing • Lack of commitment to sustained, long-term implementation, with unreasonable expectations of rapid results at population level • Relatively limited evidence for the effectiveness of nutrition and health promotion and preventive health in the real-world
Funding stability	• Periods of economic prosperity	• Economic downturn associated with GFC • Potential for cost-shifting of preventive health from state to Commonwealth jurisdiction • Unlike medical nutrition therapy, PHN was reliant upon development of business cases to be put to State Treasury rather than agreed core business within COAG agreements.

(continued)

Table 2: (Continued)

Domain	Enablers	Barriers
Political support	• Periods of political will—at both national and state level	• Change of government (and ideology) at both state and national levels, resulting in loss of commitment • Loss of access to decision makers • Lack of public concern about preventive health and nutrition promotion programmes • The influence of powerful conflicted stakeholders, particularly in the food industry • Lack of willingness to adopt regulatory approaches unilaterally with a stated preference for nationally-consistent approach (e.g. advertising controls of energy-dense nutrient poor foods and drinks directed to children)
Partnerships	• Multi-sectoral, whole-of-government approach • Competition for leadership between state jurisdictions	• Instigation of 'gag clauses' in funding agreements with NGOs, hence silencing concerns about cuts to investment in prevention

effectively framed, which further weakened potential influence over political will.

Other factors not specified in the Shiffman and Smith framework that may have increased political will for continued investment in nutrition included being better prepared for the risks around political cycles, ensuring better resourcing of project and programme evaluation and building and relationships with key stakeholders, including clinicians. All stakeholders could be more effective advocates and active politically (Cullerton *et al.*, 2018). Results also suggest that gaps in relevant national and state data affected the opportunity to advocate effectively for continued nutrition action. Many of these gaps have been filled recently by the revised global burden of disease study, which identified nutrition as the major preventable risk factor contributing to the burden of disease in Australia (GBD 2017 Diet Collaborators, 2019; Institute for Health Metrics and Evaluation, 2019), and the release of dietary data from the AHS 2011 – 13 that highlighted the poor dietary intake of the Australian population, particularly the very high intake of discretionary foods and drinks (Australian Bureau of Statistics, 2015a). Ironically, these data are now available at a time when there is less capacity to advocate for nutrition or take action locally in Australia than at any time in the past 20 years.

It is also important to note that the period of increased investment in preventive health in Queensland coincided with a period of strong economic growth in the state between the 1990 recession and the Global Financial Crisis (GFC) in 2008. From 1991 – 92 to 2007 – 8, Queensland had a mean economic growth of 5.2%, compared with 3.5% in the rest of Australia (Queensland Treasury, 2020). The period of disinvestment occurred during the economic contraction following the GFC. Economic pressures may also help explain changes in investment in health promotion in other states, including the demise in Western Australia seen in the early 2000s (C. Pollard, personal communication, 2006).

Following the loss of the Australian National Preventive Health Agency, the National Preventive Health Partnership and Medicare Locals as originally conceived, there was negligible capacity for Commonwealth government structures to deliver preventive health or nutrition programmes and services. Neither was there any blueprint for future action (Lee *et al.*, 2013). Despite recent undertakings to develop a National Obesity Strategy (lead by Queensland Health) (Australian Government Department of Health, 2020a) and a National Preventive Health Strategy (Australian Government Department of Health, 2020b), in the current socio-political environment in Australia, responsibility for preventive health had been left largely to state jurisdictions, and has been neglected more recently by focus on the coronavirus pandemic. Most focus on short-term ad hoc projects, with little workforce capacity to respond to the diverse needs of local communities (Vidgen *et al.*, 2017). In such an environment, the 2012 decimation of the Queensland preventive health and nutrition workforce represented a huge loss of opportunity to build on previous achievements. Such capacity had been built up strategically through five successful funding submissions that survived the detailed scrutiny of Queensland Treasury officials; it is difficult to conceive the circumstances that would support such concerted effort being instigated again soon. Alternating investment and disinvestment in primary

prevention and nutrition capacity and programmes from Australian governments of all persuasions in Australia is highly counter-productive in the battle against obesity and chronic disease (Roberto *et al.*, 2015a).

In 2016 the United Nations declared the international decade of action on nutrition (United Nations, 2016). The scientific evidence is clear that the best way to achieve optimum nutrition, increase population prevalence of healthy weight and reduce chronic disease is through creating supportive social, physical and economic environments that sustainably and equitably promote healthy eating (Roberto *et al.*, 2015a). This will involve sustained commitment and regulatory reform, such as has been applied cost-effectively and successfully in tobacco control (Studlar and Cairney, 2019). While scrutiny of the timelines and analysis of results of this study suggests that national action may stimulate state and territory responses as has occurred previously, there is little indication that any governments in Australia currently have an appetite for implementing policy and legislation in the nutrition area, including in response to the COVID-19 pandemic. This contrasts markedly with responses in other countries, notably England (UK Department of Health and Social Care, 2020).

But what is clear is that urgent preventive health action is required in Queensland to improve nutrition and healthy weight status and tackle chronic disease—particularly among vulnerable groups—and that a concerted, multi-strategy long term approach is needed nationally. The findings of this case study support the critical need for a champion/policy entrepreneur, either inside or external to government, to influence public and political will in this regard (Cullerton *et al.*, 2016a), highlighting the value of advocacy by health professionals and organizations using tools such as political science theory (Cullerton *et al.*, 2016b; Baum *et al.*, 2019).

STRENGTHS AND LIMITATIONS

This paper has drawn on publicly available data, which in several instances, is now quite limited. Many relevant reports known to the authors or identified in the literature search conducted in 2014 are no longer available on the World Wide Web. This is mainly due to changes to Queensland Government websites under the LNP Government late in 2014 and the removal of the Queensland Public Health Forum website, which also dates from that time. Every effort was made subsequently to locate hard or archived copies of such material. Some documents now exist only in private collections; copies are available from the corresponding author. Where data could no longer be verified, it was omitted from inclusion. The public 'disappearance' of such material is one reason why it is so important to try to document this case study.

To ensure a manageable scope for this study, our focus on publicly available documents related to statewide nutrition policy and programmes meant information about other (often covert) influences on political will and government policy, such as food industry lobbying, or departmental advice, was not identified or analysed. Insights into the factors have been published elsewhere (I *et al.*, 2021; Lee *et al.*, 2018).

Another key limitation, but also arguably a strength, of the study is that this paper has been written by those involved over two decades in the development, implementation and evaluation of community and public health nutrition initiatives in Queensland, hence there is significant potential for bias. Similarly, identification and relative causal weighting of factors shaping political priority (Table 1) was subjective, and a limitation of this approach is the inability to control for other potential variables of influence.

CONCLUSION

This case study has demonstrated that a coordinated, well-funded, intersectoral and comprehensive strategy to improve food environments and address nutrition issues at the population level can be achieved and generate promising health outcomes. The legacy of some projects continues in some areas. Public health practitioners and advocates have much to learn from historical reflection, which underscores the importance of preserving key documents and resources of health promotion programmes. However, rigorous evaluation, communication and constant advocacy by a broad base of aligned groups, and policy entrepreneurs, are required to enhance longevity and sustainability of impacts and outcomes more broadly. Public and political will to invest long term in nutrition promotion and preventive health to address the high economic and societal cost of obesity and chronic disease is paramount to success.

SUPPLEMENTARY MATERIAL

Supplementary material is available at *Health Promotion International* online.

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ETHICS APPROVAL

Ethics approval was not required.

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