Public Health Nutrition: 24(9), 2669–2680 doi:10.1017/S1368980020002414

Implementing a healthy food retail policy: a mixed-methods investigation of change in stakeholders' perspectives over time

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Submitted 18 July 2019: Final revision received 8 May 2020: Accepted 23 June 2020: First published online 11 September 2020

Abstract

Objectives: To investigate (i) changes in stakeholder commitment and (ii) perceptions of the purpose, challenges and benefits of healthy food and beverage provision in community sports settings during the stepwise implementation of a healthy beverage policy.

Design: Convergent, parallel, mixed-methods design complemented (i) repeat semi-structured interviews with council stakeholders (*n* 17 interviews, *n* 6 interviewees), with (ii) repeat quantitative stakeholder surveys measuring Commitment to Organisational Change; (iii) weekly sales data examining health behaviour and revenue effects (15 months pre-intervention; 14 months post-intervention); (iv) customer exit surveys (*n* 458); and (v) periodic photographic audits of beverage availability. Interviews were analysed inductively. Stakeholder surveys, sales data, customer surveys and audits were analysed descriptively.

Setting: Four local government-owned sports and recreation centres in Melbourne, Australia, completed a 3-month trial to increase the availability of healthy beverages and decrease the availability of unhealthy beverages in food outlets.

Participants: Interviews were conducted with council managers and those involved in implementation (September 2016–October 2017). Customers were surveyed (September–October 2017).

Results: Interviews and surveys indicated that stakeholders' commitment to policies varied such that, over time, optimism that changing beverage availability could increase the healthiness of customers' purchases became more widespread among interviewees. Stakeholder focus generally progressed from anticipatory concern to solutions-focused discussions. Sales, audit and customer survey data supported interview findings.

Conclusions: We found a general increase in optimism regarding policy outcomes over time during the implementation of a healthy beverage policy. Stepwise trials should be further explored as an engagement tool within community retail settings.

Keywords
Qualitative research
Sugar-sweetened beverages
Organisational change
Programme evaluation
Nutrition policy

Creating supportive food environments[1] is essential to improve population nutrition and reduce the prevalence of non-communicable diseases and obesity[2]. Community food retail settings offer an opportunity to positively influence community health through improving the promotion and availability of healthy – compared with unhealthy – food and beverages[3]. Food outlets in sports and recreation facilities offer a promising setting for such interventions, as they are frequently owned and/or operated by local governments and are publicly funded institutions with a pre-existing alignment with health[4]. There are now several international examples of attempts to improve the promotion and availability of healthy – compared with unhealthy – food and beverages in sports and recreation facilities[5–10].

Many of these international examples have noted difficulties in engaging facilities in initiating, progressing and maintaining healthy policies[9,11,12]. Facility managers and staff often broadly agree with the principle of encouraging

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the healthiness of customer purchases[13,14]. However, post-intervention interviews with stakeholders, including facility staff, managers and organisational leaders, often identify perceived barriers such as difficulty in sourcing appropriate healthy alternatives, increased staff time for healthy food preparation, declining revenue, reduced competitiveness and poor customer acceptability[9,13]. A comparative case study by Olstad *et al.*[9] examined adopters, semi-adopters and non-adopters of healthy food and beverage policies at sports and recreation facilities in Canada. The researchers found that differences in adoption were partially explained by managers' personal views on the need to provide unhealthy options to maintain customer choice autonomy, emphasis on maximising profits and lack of perceived customer demand for healthy food.

Stepwise or trial-based approaches to implementing healthy food and beverage policies may be an effective way of engaging stakeholders in undertaking such changes[11,14]. In stepwise approaches, the easiest changes are usually implemented first, followed by progressively more complex changes to shift towards healthier food environments. Stakeholders may become more committed and optimistic through their experience[15] and learn how to adapt policies to overcome barriers to change[16]. However, no studies to date have conducted repeat interviews over time with those involved in the implementation of healthy eating initiatives in sports and recreation facilities. Hence, the factors that influence commitment to policies, and changes in perceived barriers and enablers over time, have not been examined, limiting the insights into potential points of intervention.

We sought to conduct the first exploration of how stakeholders' views change during the implementation of a healthy beverage policy by conducting a longitudinal, mixed-methods evaluation of the stepwise implementation of a healthy beverage policy in local government-owned sports and recreation centres in Melbourne, Australia. Specifically, we aimed to investigate changes in stakeholder commitment and perceptions of challenges and benefits of healthy food and beverage provision in community sports settings over time and to explore sources of heterogeneity across organisations and individuals.

Methods

Setting

Local government participants

The current study focuses on two local governments in metropolitan Melbourne: Council A and Council B. To preserve participant anonymity, we used pseudonyms throughout. Both local governments are located in areas of relative socioeconomic disadvantage[17]. These local governments own a number of public leisure facilities that provide a combination of hot and cold foods for sale through vending machines and canteens.

Intervention

In December 2014, Council A adopted the Victorian Government *Healthy Choices* guidelines for sports and recreation centres (HCG)[18,19]. Council B also adopted the HCG across three sites in February 2015. The HCG set out a traffic light classification system for healthiness of foods and beverages: 'red' (choose rarely), 'amber' (choose occasionally) and 'green' (best choices). The guidelines require that no more than 20 % of available foods and beverages be 'red', and at least 50 % be 'green'. The research team was subsequently engaged to evaluate the process of implementation and outcomes of these state-led, local government-initiated policies.

In September 2016, five sites (indoor and outdoor Pool A, Stadium A, Sports Centre B, Stadium B as well as Library B) aimed to improve the availability of healthy compared with unhealthy beverages over a 3-month trial period by requiring that cold beverages displayed in café refrigerators and vending machines comply with the HCG. 'Red' milkshakes were also removed from sale and replaced with 'green' smoothies. As neither council met the HCG beverage targets after 3 months, the transition period was extended to 12 months. Intervention details can be found in online supplementary material, Appendix I. The timeline for implementation and evaluation is shown in Fig. 1. Subsequent to beverage changes, Council A also improved the healthiness of its food offerings, reaching HCG compliance for food and beverages in May 2017. To facilitate comparison between councils, this article focuses on the beverage policy changes over time (hereafter 'the policy').

Mixed-methods approach

The current research used a critical realist perspective by combining a realist ontology with a constructivist epistemology[20]. Considering our perspectives in qualitative analysis and data integration, we note that we have a preventative health focus, with a particular emphasis on the socioecological perspective[21], whereby the socio-political context influences the food environment, and the food environment influences individual food choices.

We conducted a convergent, parallel, mixed-methods study[22] with a longitudinal perspective before and after the implementation of healthy food retail policy. The convergent approach allows exploration of the theory of an intervention and provides greater insight than either a quantitative or qualitative study alone[20]. Mixed-method approaches are commonly used in implementation research to provide a comprehensive understanding of community interventions and their outcomes from the perspectives of different stakeholders, and to understand the mechanisms for change[5,7,12,23].

https://doi.org/10.1017/S1368980020002414 Published online by Cambridge University Press

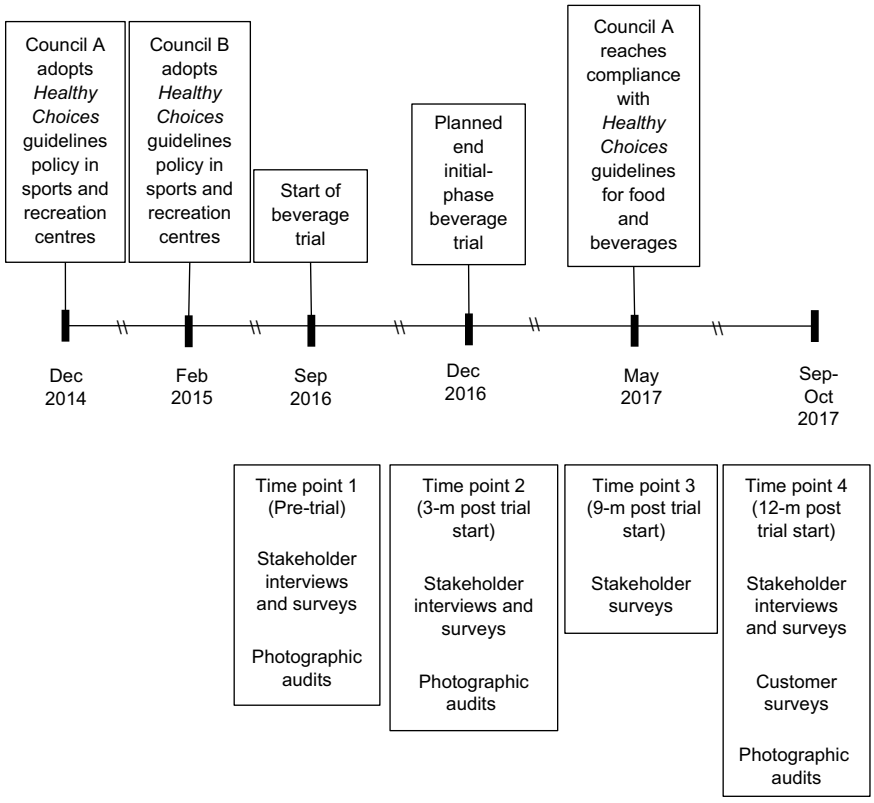

Fig. 1 Timeline of healthy food and beverage policy implementation and evaluation, local government-owned sports and recreation centres, Melbourne, Australia, 2014–17

We collected multiple quantitative and qualitative data sources concurrently in order to build a more comprehensive understanding of the progression of stakeholder perspectives over time, and the potential reasons for changes in those perspectives. Specifically, we complemented (i) repeat semi-structured interviews with council stakeholders, with (ii) repeat quantitative stakeholder surveys measuring Commitment to Organisational Change[24]; (iii) weekly sales data examining health behaviour and revenue effects (15 months pre-intervention; 14 months post-intervention); (iv) customer exit surveys; and (v) periodic photographic audits of beverage availability.

Below we describe the participants and procedures for each data source, followed by an explanation of the integration of data sources. This information is summarised in Table 1.

Stakeholder interviews to explore longitudinal changes in attitudes and barriers and enablers to change

Repeat semi-structured interviews were conducted with a purposive sample of people involved in the design and implementation of the initiative. The sample included: (i) the sports and recreation centre chief operating officer from Council A; (ii) the health and wellbeing manager and (iii) the youth and recreation manager from Council B; (iv) the dietitian responsible for implementation (employed by Council A but working across both councils); (v) the food service manager from Council A; and (vi) a Council B employee performing the role of both food service manager and centre manager.

Longitudinal interviewing[25] allows for changes in attitudes of individuals to be mapped over time. This is particularly useful in examining healthy food policy implementation, where progress is usually slow. Each interview was conducted by two of four authors (AP, TBR, AR, MRB) immediately prior to (time point 1; Fig. 1) and immediately following the initial 3-month trial period (time point 2; Fig. 1), and again at 12 months post initial implementation (time point 4; Fig. 1). Interview questions addressed stakeholder roles, understanding of the purpose of the policy, barriers and enablers of implementation, and outcomes of the policy. Interviews at each time point focused on both current and past stakeholder perspectives. Thus, the second two rounds of interviews explicitly included reflections on interviewee perceptions in previous interviews. See online supplementary material, Appendix II for discussion guides. Interviews were audio-recorded and transcribed verbatim. Immediately following the interview, initial impressions were recorded to inform later analyses.

https://doi.org/10.1017/S1368980020002414 Published online by Cambridge University Press

Table 1 Summary of data sources used in the evaluation of healthy food and beverage policy implementation, local government-owned sports and recreation centres, Melbourne, Australia, 2014–17*

Data source	Aim	Method (brief)	Participants (if applicable)
Interviews	To explore longitudinal changes in attitudes, and barriers and enablers to change	Repeat semi-structured interviews explored stakeholder roles, understanding of the purpose of the policy, barriers and enablers of implementation and outcomes of the policy. Three rounds: pre-trial, and 3 and 12 months after trial start	Purposive sample of council stakeholders involved in the design and implementation of the initiative: sports and recreation centre managers (*n* 2), council mangers (*n* 2), the dietitian responsible for implementation (*n* 1) and a food service manager (*n* 1)
Stakeholder surveys	To assist in quantifying perceptions of policy over time	Repeat quantitative stakeholder surveys measuring Commitment to Organisational Change[24]. Four rounds: pre-trial, and 3, 9 and 12 months after trial start	
Customer surveys	To assess customer acceptability of healthy policies	Cross-sectional customer exit surveys on sociodemographic information, purchasing patterns and attitudes towards intervention	Convenience sample of sports and recreation centre patrons (*n* 458)
Sales data	To assess the impact on revenue and healthiness of customer purchases	Weekly sales data examining health behaviour and revenue effects (15 months pre-intervention; 14 months post-intervention)	N/A
Photographic audits	To assess initiative implementation and maintenance	Periodic photographic audits of beverage refrigerators	N/A

*Data source integration: We used a side-by-side comparison narrative to integrate the datasets. Each dataset was analysed separately first, considering the individual research aims of that dataset. Then, using the qualitative interviews as a base, we looked across other datasets for common concepts, with an explicit consideration of how the results converged or diverged, or explained each other.

We adapted the analytical framework for multiple perspective qualitative longitudinal interviews (MPQLI) set out by Vogl *et al.*[26]. The framework allows for the exploration of different perspectives and the process of change 'between interviews, across participants, and longitudinally within individual narratives'[26] (p. 179). That is, an inductive reflexive thematic approach was initially employed to explore individual perspectives[27]. The codes and themes derived from this process were then used to identify cross-sectional narratives across the three time points and how each individual stakeholder or council's narrative changed over time. Thus, the themes provide an overview of changes in stakeholders' attitudes and commitment over time, the main focus of the study. Data from all interviews were analysed using NVivo qualitative data management software[28] by the lead author (MRB). Subsets of interviews were cross-coded by two other researchers (TBR and LH), such that all interviews were coded twice. Themes were refined through regular discussions within the coding team throughout the analysis.

Stakeholder surveys to assist in quantifying perceptions of policy over time

To quantify perceptions of change, so that changes in attitudes could be more easily monitored over time, we conducted repeat quantitative surveys with interviewed stakeholders. This was performed using the Commitment to Organisational Change scale[24] at intervals: immediately before, and at 3, 9 and 12 months after beginning the beverage trial (Fig. 1). The scale measures commitment to change in three domains: affective (inherent benefits of change), continuance (perceived cost of resisting) and normative (sense of obligation). These are assessed using eighteen questions on seven-point Likert scales from strongly disagree (1) to strongly agree (7). For example, 'I would feel guilty about opposing this change'. See online supplementary material, Appendix III for questions. Mean (SD) scores out of 7 were determined for individuals across the six questions relating to each commitment domain, as well as for all stakeholders at each time point, and used to track changes using descriptive statistics across and between individuals over time.

Photographic audits to assess initiative implementation and maintenance

Compliance with the HCGs for beverage availability was assessed using photographs of displayed beverages across several time points from September 2016 to October 2017 (Fig. 1). Each item on display represented one occupied slot which was subsequently categorised into 'red', 'amber' or 'green' (see online supplementary material, Appendix I, Supplemental Table S1 for classifications). Results were analysed using descriptive statistics using Microsoft Excel by calculating proportions of 'red', 'amber' and 'green' beverages available to examine changes over time.

Sales data to assess impact on revenue and healthiness of customer purchases

Cold beverage sales data were examined using descriptive statistics using Microsoft Excel for changes in dollar sales (revenue), overall cold beverage sales and the proportion

https://doi.org/10.1017/S1368980020002414 Published online by Cambridge University Press

of 'red', 'amber' and 'green' beverages sold using the mean weekly values from August 2016 (the month prior to changes) to August 2017 (12 months later). Data were collected weekly from both councils from June 2015 (15 months prior to the beverage trial) until October 2017 (14 months after trial start), as available. Data from sites within each council were aggregated as they showed similar trends. We note differences in sales between sites in the text below where relevant. Sales data at Council B were examined with and without soft drink sales, as 'amber' (diet) and 'red' (regular) soft drinks were not consistently distinguished in the sales data at this council over time.

Customer surveys to assess customer acceptability of healthy policies

Customer surveys were conducted from September to October 2017 at four sites (Pool A, Stadium A, Sports Centre B and Library B), for two weekdays at each site during the main opening hours. A recruitment target of 100 customers per site was set, which was considered sufficient to gauge perspectives for exploratory analyses, based on the authors' previous experiences. Every second visitor aged 15 years or older was asked to participate in a 1–2-min survey upon exiting, and responses were recorded on electronic tablets using the QuickTap Survey application (https://www.quicktapsurvey.com/).

Surveys consisted of twenty-one questions (see online supplementary material, Appendix IV) to determine: (i) visitors' frequency and purpose of visits, (ii) food and beverage purchasing patterns, (iii) sociodemographic information, (iv) awareness of, and attitude towards, healthy beverage changes and (v) the perceived role of sports and recreation centres in promoting healthy eating. Questions were developed collaboratively with food service managers at both councils. Responses were analysed using descriptive statistics in Microsoft Excel.

Data source integration

We used a side-by-side comparison narrative to integrate the datasets of the convergent parallel design, as outlined by Creswell and Clark[20] (pp. 218–227). First, each dataset was analysed separately, considering the individual research aims of that dataset (see Table 1). Then we compared our analysis of qualitative data with the outcomes of analyses of other datasets, identifying common concepts and convergence or divergence in findings.

To report our results, we led with themes identified from key stakeholder semi-structured interviews. These provided an overview of changes in stakeholders' attitudes and commitment to policy over time. We then integrated stakeholder survey, sales data analysis, customer survey and photographic audit results, where needed, to elaborate on, corroborate or demonstrate divergence with stakeholder attitudes and accounts. Our analysis focused on changes in attitudes, over time, within individual stakeholders (which we then extrapolated to overall changes). We also compared and contrasted stakeholders' attitudes and quantitative outcomes between Council A and Council B. We drew on the results to incorporate multiple perspectives (from customers, managers and implementers) to aid in 'sense-making' of this complex change process[26]. Finally, we drew on our results to formulate recommendations to increase the uptake and maintenance of healthy food policies in council-owned food retail facilities.

Results

Overview

Repeat semi-structured interviews were conducted with stakeholders including: (i) sports and recreation centre managers (n 2), (ii) council mangers (n 2), (iii) the dietitian responsible for implementation (n 1) and (iv) a food service manager (n 1) (total interviews, n 17). Five stakeholders completed all four survey rounds (total n 22 surveys) and three interview rounds, with the remaining stakeholder completing the first two rounds of surveys and interviews only as they left the participating organisation during evaluation. Six key themes emerged from the interviews, including: (i) 'Changes in Stakeholder Attitudes and Commitment Over Time', (ii) 'Role of Stakeholders in Implementing and Maintaining Change', (iii) 'Logistics and Practical Strategies', (iv) 'Healthy Food Advocacy', (v) 'Commercial Viability', and (vi) 'Customer Experience'. Below we integrate qualitative and quantitative data to explore and contextualise these key findings. Please note that quotes were not attributed directly to individual stakeholders to reduce the risk of re-identification given the small sample size.

Theme 1: Changes in Stakeholder Attitudes and Commitment Over Time

> 'I was very cynical. I'm less cynical now. I still think [the policy] has got some issues, but it hasn't had the [negative] impacts that I thought it might'. (Council B, 3 months after trial start)

Interview results suggested that, before trial, perceptions of anticipated success related to neutral profit effects, minimal customer backlash, positive community health outcomes and sustainable implementation. The dietitian and staff at Council B expressed fear and uncertainty about negative financial outcomes, and the potential ramifications that failure of this project could have on facility and council stakeholder relations and future willingness to undertake healthy food and beverage policies. The influence of external pressures, such as research evaluation, raised initiative priority and provided an accountability mechanism for

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keeping stakeholders on task towards implementing beverage changes.

The theme of 'Healthy Food Advocacy' was initially a focus for those whose role more obviously aligned with health (dietitian, and health and wellbeing manager). In later interview rounds, most other interviewees also accepted that changing beverage availability could increase the healthiness of customers' purchases. Among all stakeholders, there was increasing discussion of 'Logistical and Practical Strategies' relating to implementation as barriers were overcome, or not, over time. 'Role of Stakeholders in Implementing and Maintaining Change', 'Commercial Viability' and 'Customer Experience' were ongoing themes over time; however, the focus within each theme generally shifted from anticipatory concern to more solutions-focused discussions in later rounds (at time point 2: 3 months after trial start; and time point 4: 12 months after trial start). These changes in attitudes over time are explored further in the themes below.

Repeat stakeholder surveys reinforced interview findings and indicated variability in commitment both across participants and over time. While the length of participation in trials was positively associated with a sense of obligation to support the policy for some stakeholders, those who were more supportive pre-trial generally had the highest relative support throughout. These tended to be interviewees who placed the strongest emphasis on council responsibility to implement change and who emphasised the natural alignment between sport and nutrition. See online supplementary material, Appendix V, Supplemental Figs. S1–S3 for detailed survey results.

Theme 2: Role of Stakeholders in Implementing and Maintaining Change

> 'These things do take time and you obviously have to build that rapport, build that trust and then in terms of the readiness, what are the priorities and just keeping the conversation going and not getting put off'. (Council A, 3 months after trial start)

Interview discussions on the 'Role of Stakeholders in Implementing and Maintaining Change' shifted over time, to reflect the changing role of individual stakeholders as the policy moved from conceptualisation to implementation to maintenance phases. This theme cut across several others including 'Healthy Food Advocacy', as discussed below. The role of local council in implementing and enforcing the policy was complex. Most stakeholders agreed that councils have a responsibility to act to positively influence their constituents' health. Conversely, the importance of councils being fiscally responsible, and of maintaining services to the community through subsidised sports and recreation facilities, was emphasised by several senior stakeholders. The personal views of stakeholders at all levels of seniority heavily influenced engagement. Those who generally expressed a higher inherent belief in the value of change were more likely to discuss how to actively move the project forward.

The role of individuals (particularly the dietitian) in enabling policy implementation was discussed in relation to expertise and personal views. Communication and cooperation between stakeholders and engagement in the initiative was seen as crucial to success. The dietitian, in particular, emphasised the importance of engagement in stimulating change: 'this has been the battle I guess, just trying to drive it'. Shared decision-making was noted to have improved staff engagement, as well as customer–staff interaction in later interview rounds.

Theme 3: Logistics and Practical Strategies

> 'Look, we got through the changeover of suppliers, which is great. It did take some time but we've now sorted that'. (Council B, 12 months after trial start)

The interview theme of 'Logistics and Practical Strategies' focused on different challenges as they arose over time during the change process. Internal to the councils, more junior staff members (who had a greater involvement in practical implementation) spoke about the need for support and expertise including the dietitian's knowledge in identifying healthy alternatives and modifications. Capacity discussions also related to the 'greater staff time required for healthy food', both in sourcing appropriate alternatives and in food preparation. For example, the chief operating officer at Council A believed that staff training and engagement was an important factor in encouraging customers to switch to healthier offerings. Thus, in later interview rounds, staff training was identified by many stakeholders as a priority to increase internal expertise. Some of the required internal expertise related to the use of 'business basics', such as risk management planning and management of customer complaints. Discussions around staff turnover, particularly the dietitian's tenure coming to an end 3 months after trial start, were a key element of sustainability concerns due to a loss of knowledge in transitions.

Council's adoption of formal policy and inclusion of HCG requirements in retail contracts was frequently seen as necessary, but not sufficient, to generate and maintain change. Most stakeholders, particularly the dietitian, at 3 and 12 months after trial start expressed that an incremental or stepwise change approach had been crucial to effectiveness. Similarly, acceptance of slow progress was common ('we're on a journey'). Many stakeholders emphasised the importance of learning from experience through trial and error and adaptation.

External to the facilities, imbalances between supply and demand for healthy foods were framed as the source of many logistical problems. Identifying and negotiating with new and existing suppliers to provide healthier

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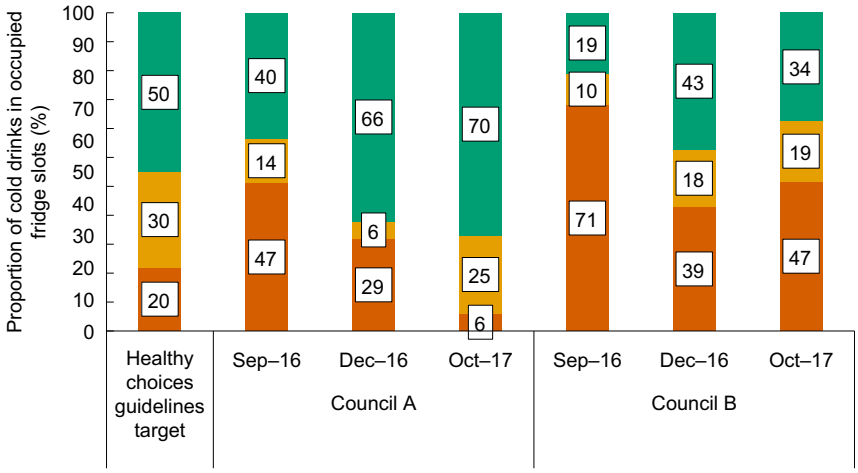

Fig. 2 Change in 'red', 'amber' and 'green' cold beverage availability over auditing period in response to healthy beverage policy, sports and recreation centres, Melbourne, Australia, September 2016–October 2017

options was a major time commitment and created logistical challenges, especially at Council B. The dietitian and the state government-funded implementation advice hotline, the Healthy Eating Advisory Service[29], were important external supports. Greater customer demand, and therefore increased buying power, reduced some of these supply-related barriers.

Interview findings regarding the barriers to achieving targets over time, and the differences between councils, were corroborated by periodic photographic audits (Fig. 2). Photographic audits showed that Council A sites reduced the availability of 'red' beverages and increased the availability of 'green' beverages from September 2016 to October 2017. Both Council A sites reached HCG availability targets at the audit conducted in October 2017. Sites in Council B reduced display of 'red' cold beverages from September to December 2016, but this increased again by October 2017, and the council did not meet HCG targets by the end of the monitoring period, although healthiness of available beverages was improved from baseline.

Theme 4: Healthy Food Advocacy

> 'Why are we doing it? We want to see people make healthier choices . . . ' (Council A, pre-trial)

Different interviewed stakeholders focused on the theme of 'Healthy Food Advocacy' at different time points. Stakeholders whose role more closely aligned with health (dietitian, and health and wellbeing manager) explored this theme more in the initial stages, compared with other stakeholders. In later rounds, the belief that changing beverage availability can increase the healthiness of customers became more widely accepted among other interviewees. Healthy food advocacy was often cited as a reason for participating in healthy food changes in order to better align sports messages with nutrition messages. While some stakeholders expressed that they were personally passionate about healthy eating, others saw promoting healthy eating as their responsibility, or an example of good corporate citizenship. The shift to healthier food environments was viewed as part of a wider movement of healthy food advocacy in the community and in the food industry. There were very limited discussions about observed changes in healthiness of customer purchases after changes in availability (at 3 and 12 months after trial start); however, some specific anecdotes were provided, for example, of customers at Councils A and B selecting 'green' smoothies when 'red' milkshakes were no longer available.

Sales data, therefore, provided important further insights into customer behaviour change. Sales data were highly variable over time, likely affected by seasonal trends and changes in patronage. For example, at Council A, total cold beverage sales rose 15 % in the year after healthy changes were introduced at Stadium A, and fell by the same amount at Pool A. The proportion of cold 'red' beverages sold fell from 59 to 34 % at Council A (see online supplementary material, Appendix VI, Supplemental Figs. S4 and S5). Therefore, the proportion of 'green' and 'amber' alternatives sold increased at both sites.

At Council B, overall sales of cold beverages did not change in the year following the beverage policy introduction (−1 %). During the initial 3-month beverage trial period, the proportion of 'red' beverages sold decreased from 73 % in August 2016 to 34 % in November 2016. However, after re-introduction of 'red' milkshakes in February 2017, the proportion of 'red' beverages sold increased again to 64 % by August 2017, although not to pre-intervention levels. Changes in the proportion of 'red' beverages sold were similar when soft drink sales were excluded from the analysis (pre-implementation, August 2016: 66 %; post-implementation, August 2017: 61 %).

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Theme 5: Commercial Viability

> '[Profit] margin has pretty much stayed the same. Revenue certainly has trended upwards but that's more seasonally affected'. (Council A, 3 months after trial start)

A focus on 'Commercial Viability' was strongest as an anticipatory concern before trial, but decreased at 3 and 12 months after trial start among most Council A and some Council B stakeholders. All stakeholders, especially those who had financial responsibility, expressed financial concerns at some point. However, individuals' emphasis on commercial viability varied from barrier-focused to solution-focused. Commercial viability was considered a key determinant of council acceptability of changes and provided income to fund council sporting programmes.

Consensus among stakeholders was that it is difficult for healthy food to be as profitable as unhealthy food, and doing so takes more resources and effort. This is in part because the status quo business model is focused around unhealthy foods and higher profit margins, and higher sales of unhealthy foods would increase profit. Similarly, commercial viability impacts were more important when discussing café finances specifically, but much less so when discussing the overall operations of sports and recreation centres. Staff costs were noted to be the biggest contributor to café costs in both councils, regardless of how healthy offerings were.

Profit became less of a discussion point at 3 months after trial start, but resurfaced at 12 months after trial start for Council B's leisure centre manager, who was concerned that the cafés would be contracted out as profit was falling (relating to reduced facility usage overall), and Council A's chief operating officer where Pool A was bringing in less income than expected. However, the chief operating officer was committed to making the change, and considered the provision of healthy food as an innovation opportunity in the sports and recreation industry.

Sales data reflected concerns expressed in interviews, although interviewees tended to place more emphasis on absolute profit, rather than relative performance compared with overall trends over time (see online supplementary material, Appendix VII, Supplemental Figs. S6 and S7). At Council A, cold beverage revenues increased by 5 % in the year following the intervention. However, revenues differed by site. At Pool A, cold beverage revenue was 12 % lower in the year following the healthy changes, in line with the downward trends in sales prior to policy introduction. There was a 7 % increase in revenue at Stadium A, consistent with a pre-intervention upward trend in revenue. At Council B, there was a 27 % decrease in cold beverage revenue 3 months after the trial started. However, after the reintroduction of milkshakes, there was no overall change (−2 %) in cold beverage revenue in the year following policy introduction.

Theme 6: Customer Experience

> 'Initially at [Stadium A] there was a bit of resistance and there was maybe in the first two weeks a fair bit of [customer] feedback asking for the milkshakes back'. (Council A, 3 months after trial start)

The 'Customer Experience' interview theme was ongoing over time; however, the focus generally shifted (especially at Council A) from an anticipatory concern about a lack of customer demand for healthy beverages to more solutions-focused discussions in later interview rounds on how to increase customer demand. For council employees (particularly the Council B's youth and recreation manager), maximising customer experience was the primary goal of council sports and recreation. High customer demand for unhealthy food and beverages was acknowledged by all stakeholders. There was a strong focus on providing appropriate and tasty healthy substitutes for customers, and on driving demand through promotion. Staff interactions with customers shaped impressions of intervention 'success' and likely impact on profit. Many stakeholders expressed that verbal support for the policy in customer surveys conflicted with customer behaviours, as found through a lack of change in customer purchases (see Theme 4: 'Healthy Food Advocacy'). However, a lack of substantial negative feedback was noted by stakeholders, with low customer awareness cited by some stakeholders at 3 and 12 months after trial start. By contrast, Library B, with high previous purchases of 'red' milkshakes, experienced high resistance from local schoolchildren after milkshake removal.

In contrast to interviewees' concerns of customer resistance and some negative feedback, the customer survey responses were overwhelmingly supportive of the change. Four hundred and fifty-eight customers completed surveys at Council A (n 317) and Council B (n 141) (response of 46 and 58 %, respectively). Demographic results are presented in online supplementary material, Appendix VIII. At both councils, approximately 60 % of respondents were female, and most resided in areas of moderate socioeconomic disadvantage. Survey results demonstrated low levels of self-reported awareness of changes to the provision of food and beverages among those visiting the centre for more than 6 months (48 % Council A, 61 % Council B). The large majority of participants across both councils agreed, or strongly agreed, that they were supportive of the healthy food and beverage initiative (87 % Council A, 83 % Council B).

Discussion

Summary of results

In this first exploration of how stakeholders' views change during the implementation of a healthy beverage policy, we found variation in the perceived cost of the policy

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and also optimism regarding policy outcomes over time. Stakeholders' focus shifted in progressive interview rounds from (i) community health motivations for change and (ii) perceived concerns about potential negative profit effects to (iii) logistical barriers to change and (iv) actual financial outcomes. Stakeholders' expressed obligation to support change was influenced by their perceptions of organisational prioritisation of profit compared with public health. Repeat surveys reinforced interview findings and indicated variability in commitment to change both across participants and over time.

The healthiness of available beverages increased at both councils; however, Council B did not meet the healthy beverage policy targets and re-introduced some unhealthy alternatives in response to perceived customer demand. This conflicted with high self-reported customer support for the healthy food and beverage initiative at both councils (87 % Council A, 83 % Council B), reflected by increased healthiness of purchases. In particular, the healthiness of customer purchases was found to improve when the healthiness of offerings was higher. Stakeholder concern about financial impacts of changes decreased in Council A after sales results indicated neutral revenue impact. However, revenue concerns persisted at Council B where there was a downward trend in revenue over time. Many stakeholders emphasised the importance of learning from experience through trial and error and adapting over time, as was demonstrated through a re-introduction of milkshakes in response to customer demand at Council B, and in the sourcing of healthier suppliers at both councils.

Comparison with previous literature

While this was the first study to examine commitment to change over time in a healthy food retail initiative, existing theory indicates that changes in commitment may reflect a transition from awareness, to acceptance, to a belief in the need for change[30]. Other influences on stakeholder attitudes towards change may include the ability to implement relevant skills, belief in positive or negative consequences for not supporting change[30], organisational commitment (e.g., through council executive support) and locus of control (e.g., belief that changing customer demand through changing the healthiness of the retail environment is within their sphere of influence)[15].

The implementation of this stepwise trial was supported by health advocacy from local government stakeholders, including interviewees, council members, customers and suppliers. The health advocacy approach focused on changes 'to gain political commitment, policy support, social acceptance and systems support'[31] (p. 2). This could be viewed as an implicit acknowledgement of the need for a comprehensive approach to generate consumer health behaviour change. The approach acknowledges the need to move beyond the Ottawa Charter[1] principle of 'develop[ing customer] personal skills' (p. 3) such as nutrition knowledge or attitudes towards healthy change to 'build healthy public policy' (p. 2) through a formal adoption and enforcement of a local government beverage policy, and to 'create supportive [food] environments' (p. 2) through changing beverage availability.

Indeed, our finding of high self-reported customer support for healthy retail changes aligns with other sports and recreation customer surveys internationally[10,32–34]. However, in the current study, council stakeholders explicitly identified a discordance between self-reported customer support and perceived customer purchasing practices. This discordance has obvious consequences for commercial viability outcomes: there was a 27 % decrease in cold beverage revenue at Council B sites in the 3 months following the policy change. This indicates the need to consider other mechanisms of increasing customer demand for healthy alternatives, thus mitigating possible revenue losses. For example, Council A held a 'green' smoothie naming competition that was perceived to encourage demand.

Our finding that healthy beverage policy implementation had a variable association with revenue outcomes is generally consistent with the literature. A review of business outcomes of healthy food retail initiatives found that commercial viability outcomes of availability-focused interventions were neutral or favourable in nineteen out of twenty-three studies[35]. More broadly, we found that the perceived reliance on revenue from food retail to support sports and recreation facilities presents a risk of change[32], even if the overall goal of promoting health is internalised by individual stakeholders.

We found that a key barrier to the transition to healthier food environments was the supply of appropriate healthy alternatives. The literature corroborates this finding in many settings[11,16,36,37]. However, stakeholder interviews revealed that a stepwise change approach allowed time for new supplier arrangements to be made and for different alternatives to be trialled. Furthermore, nutrition expertise provided by the dietitian, and by an external government-funded agency, was helpful in identifying alternative suppliers and specific appropriate healthy options.

Strengths and limitations

While highly recommended[15] but never before conducted, we longitudinally measured commitment to change of stakeholders implementing a healthy food retail policy in sports and recreation settings. The current study used an innovative mixed-methods design to contextualise these changes in stakeholder perceptions with sales data, customer surveys and photographic audits. However, several factors limit the potential generalisability of our findings. Firstly, the current study included interviews with a small number of stakeholders across two local councils. The differences in contextual factors and stakeholder perceptions are partly confounded by differences in

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- Use a step-wise implementation process to allow time for infrastructure and logistical issues to be addressed, and adaptations to be made. This may also allow time for stakeholder acceptance of change and increase commitment to change.
- Explore options for current or new suppliers to source healthier varieties of less healthy food and beverages and embed these in the regular supply chain.
- Explore ways to increase customer demand for healthy alternatives including:
  - Carefully select healthier alternatives to meet the preferences of clientele.
  - Consider other ways to improve sales beyond the types of food and drinks sold, such as changes to food outlet aesthetics.
- Ensure senior management and executives consider and communicate (e.g. through formal policy documents) the relative prioritisation of sports and recreation site profitability versus promoting health, while considering strategies including those described above to mitigate potential profit loss.
- Acknowledge that health is not always the primary motivation for many stakeholders, and be realistic about changes that can be made in the context of financial pressures.
- Consider the value of longitudinal research methods including longitudinal stakeholder interviewing and surveying to further understand the influences on stakeholder engagement with change processes over time and how iterative adaptation processes may affect implementation and maintenance.

Fig. 3 Recommendations for action and future research to enhance implementation and maintenance of healthy food policies in community settings

interventions: while both councils adopted the healthy beverage policy, the progress of Council B was slower than that of Council A. A further limitation of this article is the use of descriptive statistical analysis of sales data rather than more robust statistical methods (e.g., 'interrupted time series analysis'[38] or pre–post analysis). The large differences in the number of facility patrons and different opening hours over the course of the current study precluded the use of more robust statistical methods. This means that sales data results should be interpreted with caution, as observed changes cannot be directly attributed to the studied intervention.

Implications and recommendations

This longitudinal investigation raised and reinforced several principles for effective implementation and maintenance of healthy food retail interventions in community settings, including increasing the commitment of stakeholders to change. We summarise these as recommendations for action and future research (Fig. 3).

Conclusion

In this first exploration of how stakeholders' views change during the implementation of a healthy beverage policy, we found a general increase in stakeholder optimism about the policy over time. At both councils, there were sustained reductions in the availability of 'red' beverages from pre-implementation levels. A lower availability of 'red' beverages was associated with decreased sales of 'red' beverages and increased sales of 'green' and 'amber' alternatives. Customer surveys suggested very high support for changes, although the staff remained concerned about negative financial consequences, particularly at the council with lower pre-implementation revenue. Stepwise trials should be further explored as an engagement tool within community retail settings to allow time for stakeholders to accept change and for adaptions to promote effective implementation and maintenance.

Acknowledgements

Acknowledgements: None. *Financial support:* The current work was supported by Wyndham City Council (A.P. and M.R.B.), Melton City Council via the Victorian Government (Thrive programme) (A.P.) and VicHealth (A.P. and M.R.B.). Additional support was provided by Deakin University and the National Health and Medical Research Council to A.P., T.B.R., L.H. and M.R.B. The funders had no role in study design; in the collection, analysis and interpretation of data; in the writing of the report; or in the decision to submit the article for publication. *Conflict of interest:* There are no conflicts of interest. *Authorship:* M.R.B. and A.P. designed the study. M.R.B., A.P., A.R. and T.B.R. collected the data. All authors contributed to data analyses. M.R.B. wrote the first draft with contributions from A.P. All authors reviewed and commented on subsequent drafts of the manuscript. *Ethics of human subject participation:* The current study was conducted according to the guidelines laid down in the Declaration

https://doi.org/10.1017/S1368980020002414 Published online by Cambridge University Press

of Helsinki, and all procedures involving research study participants were approved by the Deakin University Human Research Ethics Committee (approval ref: HEAG-H 87_2016). Written informed consent was obtained from all interview subjects. Implied informed consent was obtained from all survey participants.

Supplementary material

For supplementary material accompanying this article visit https://doi.org/10.1017/S1368980020002414

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