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A communityled supportive environment approach

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Supporting healthy drink choices in remote Aboriginal and Torres Strait Islander communities: a community-led supportive environment approach

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Overconsumption of sugary drinks is a key dietary contributor to overweight and obesity, tooth decay and chronic diseases such as type 2 diabetes.[1] 'Sugary drinks' or 'sugar-sweetened beverages' are non-alcoholic water-based beverages with added sugar, including non-diet soft drinks, energy drinks, fruit drinks, sports drinks, iced teas and cordials.[1]

The National Aboriginal and Torres Strait Islander Nutrition and Physical Activity Survey found more than half (56%) of Aboriginal and Torres Strait Islander participants had consumed a sugary drink in the day prior to interview, compared to 42% of other Australians.[1] Consumption of sugary drinks increases with remoteness, with 13.1% of adults living in outer regional and remote Australia consuming sugary drinks daily compared to 8.3% living in major cities.[2]

Place-based initiatives to encourage healthier drink choices by altering the environment, also known as supportive environment actions, are central to the Ottawa Charter for Health Promotion.[3] Australian and international place-based interventions to reduce sugary drink consumption have focused on a particular setting, and include store-based policies,[4] such as in-store nutrition education and price discounts,[5] and school-based interventions.[6] The Healthy Communities Project discussed in this paper took a broader supportive environment approach and combined several strategies across multiple settings to support healthy drink choices.

The Healthy Communities Project was a pilot health promotion project that aimed to engage local governments (Aboriginal Shire Councils), community leaders, organisations and community members to create supportive environments for health. A supportive environment approach, centred on community-led action, was selected for the project as it aligned with key organisational,[7] state[8] and global[3] health promotion frameworks. The project focused on enabling both a healthier drink environment and smoke-free environment. The project also incorporated social marketing, that is, the process of applying marketing techniques to social and public

Abstract

Objective: To create supportive environments to reduce sugary drink consumption and increase water consumption by partnering with remote Aboriginal and Torres Strait Islander communities in Cape York.

Methods: This paper applied qualitative and quantitative methods to evaluate a co-designed multi-strategy health promotion initiative, implemented over 12 months from 2017 to 2018. Outcome measures included changes in community readiness, awareness of the social marketing campaign and changes in drink availability. Changes in store drink sales were measured in one community and compared to sales in a control store.

Results: Community readiness to address sugary drink consumption increased in two of the three communities. Awareness of social marketing campaign messaging was high (56–94%). Availability of drinking water increased in all communities. Water sales as a proportion of total drink volume sales increased by 3.1% (p<0.001) while sugary drink volume sales decreased by 3.4% (p<0.001).

Conclusions: A multi-component strategy with strong engagement from local government, community leaders and the wider community was associated with positive changes in community readiness, drink availability and sales.

Implications for public health: Partnering with community leaders in the co-design of strategies to create environments that support healthy drink consumption can stimulate local action and may positively affect drink consumption.

Key words: Aboriginal and Torres Strait Islander peoples, supportive environment, social marketing, local government, sugar-sweetened beverages

health issues.[9] The social marketing campaign aimed to reinforce messaging around healthy drink choices alongside developing and implementing supportive environment actions. The project was delivered by Apunipima Cape York Health Council (Apunipima), the Aboriginal Community Controlled Health Organisation servicing Cape York.

This paper presents the evaluation findings of this novel multi-strategy community-led health promotion project that used qualitative and quantitative methods to assess change in community readiness, awareness of social marketing messaging, drink availability, and consumption of water and sugary drinks in remote Aboriginal and Torres Strait Islander communities.

Method

Setting and sample

The Healthy Communities Project was implemented in Cape York, a remote region of Far North Queensland, Australia. Cape York is a region of cultural and environmental richness and diversity. However, Cape York communities experience a complex set of challenges, partly due to remoteness, including limited access to health and other services, and high cost of food and beverages relative to metropolitan areas.[10]

The project was piloted in three (Community A, B and C) of the 11 remote Aboriginal and Torres Strait Islander communities in Cape York serviced by Apunipima, with community populations ranging from 300 to 1,400 people in 2017.[11] The proportion of Aboriginal and/or Torres Strait Islander people in the project communities ranged from 85% to 95%.[11]

Eligible project communities were those with higher rates of childhood overweight and obesity compared to other communities in Cape York,[12] and those governed by an Aboriginal Shire Council. All communities involved in the project had one store located within or close (within 10km) to the community, with the exception of Community A, which had two local stores (stores 1 and 2), both included in the study. Store 3 serviced Community B and store 4 serviced Community C. Complete sales data on water and sugary drink purchasing was only available for store 3. An additional Cape York community was selected as a control to compare store sales data on water and sugary drink purchasing. The control store was selected as it was managed by the same

store group as the intervention store (store 3) and serviced a community similar in size to Community B.

The intervention

The Healthy Communities Project was a multi-strategy initiative combining social marketing with community-led supportive environment actions to increase water consumption and reduce consumption of sugary drinks.[3] The project was implemented over a 12-month period from 1 April 2017 to 31 March 2018, with planning and community consultation occurring from February 2017. Apunipima staff worked closely with Aboriginal Shire Councils, community leaders, organisations and community members to co-design and implement local actions. The Healthy Communities Project tested the hypothesis that consumption of sugary drinks could be reduced, and consumption of water increased, in a remote Aboriginal and Torres Strait Islander setting by collaborating with communities to implement a social marketing campaign alongside community-led actions to create supportive environments. It was hypothesised that this engagement with community leaders would result in an increase in community readiness to address sugary drink consumption.

Community-led supportive environment action

A key strategy to engage community members in the co-design and implementation of supportive environment actions was to establish Community Advisory Committees in project communities, with membership from Aboriginal Shire Councils, local organisations and community leaders. The project team convened meetings with Community Advisory Committees to discuss potential actions to address sugary drink and water consumption. Suggestions were invited under five categories informed by the Good Food Planning Tool (places and spaces, policy, signs and promotion, community leadership, and community events).[13]

The Community Readiness Assessment tool was used at baseline to measure preparedness of each community to implement actions addressing sugary drink consumption.[14] Community readiness interviews also provided an opportunity for key community leaders to suggest further actions. Actions identified through Community Advisory Committee meetings and community readiness interviews were

prioritised for implementation by the project team and Community Advisory Committee if they had adequate community support, resources and momentum. Actions such as bans on the sale of sugary drinks within certain community organisations were considered out of scope, as the project timeframe and resources were inadequate to facilitate the process of gaining community-wide acceptance and support.

Prioritised actions to implement fell under three broad categories: i) awareness-raising and education activities, which included co-designing local videos with community members, education sessions for school-aged children, information stalls at community events and distribution of social marketing merchandise; ii) infrastructure changes to improve availability and access, such as installing chilled water bubblers, relaying drink fridges in stores to promote bottled water and displaying water promotion signage in community settings; and iii) policies and partnerships, which involved working with key community organisations to promote the development of policies governing availability of water and sugary drinks within organisations and at events. Actions were delivered by Apunipima staff with in-kind personnel contributions from Aboriginal Shire Councils and community organisations.

Social marketing campaign

A social marketing campaign for Cape York was developed by Apunipima in consultation with community members and Aboriginal and Torres Strait Islander staff members. Early community consultations by Apunipima staff informed the campaign design, which was modified and finalised based on community feedback. The campaign was titled 'Sugary Drinks Proper No Good – Drink More Water Youfla' ('youfla' is commonly used in Cape York to refer to a group of people). The two-tiered campaign aimed to promote the benefits of water and health risks of excessive sugary drink consumption. First-tier campaign materials featured a popular sporting personality and included three short video clips, a series of posters and a radio advertisement. The campaign was officially launched on 2 November 2017 to Facebook, Twitter, YouTube, and two nationally recognised health organisation websites. Campaign materials were heavily promoted on these channels to 31 March 2018. Video clips were broadcast on state and national

television stations and health information stations in project community clinics and were loaded onto USB drives for distribution to community organisations across Cape York. Radio adverts with campaign messaging were broadcast across North Queensland. Campaign materials including posters and branded merchandise were distributed in project communities and throughout Cape York by Apunipima staff.

On the advice of the Community Advisory Committees, the social marketing campaign evolved to include a second tier of campaign materials tailored specifically for each of the three communities. These materials were co-designed with communities and featured community leaders, Traditional Owners, Elders and community members. Communities wanted to focus on sharing positive messages, emphasising water as the drink of choice rather than the negative health effects of sugary drink consumption. Campaign materials included four short videos, posters and merchandise, which were distributed to community organisations in the three project communities. Videos were distributed via USB drives and uploaded to YouTube and Facebook.

Evaluation design

Quantitative and qualitative data were used to evaluate the extent to which:

- supportive environment actions changed readiness of community leaders and community members to address sugary drink consumption
- Aboriginal and Torres Strait Islander community members were aware of the social marketing campaign
- infrastructure changes, policies and partnerships altered the availability of water and sugary drinks, and
- supportive environment actions and the social marketing campaign changed consumption of sugary drinks and water.

Figure 1 presents the interventions, actions and short-term and medium-term outcomes measured.

Data collection

Data collection occurred at baseline (April–May 2017) and post-implementation (April–May 2018).

Community readiness

Qualitative and quantitative data were collected via semi-structured interviews at

baseline and post-implementation using the Community Readiness Assessment tool,[14] which was modified (length, visual formatting and language use) in consultation with Aboriginal and Torres Strait Islander staff at Apunipima to increase its appropriateness for Cape York communities. Interviews ran for approximately 40 minutes each. Interview questions related to five domains, including: community knowledge of the issue; community climate (community attitudes toward addressing the issue); leadership; community knowledge of efforts to address the issue; and resources related to the issue. In line with community readiness assessment best practice, community leaders, service providers and community members with extensive knowledge of the community were approached to participate.[14] Participants included Community Advisory Committee members (71%) and other key stakeholders (29%) suggested by members representing community organisations including Aboriginal Shire Councils, schools, stores and health services. Where participants interviewed at baseline were not available post-implementation, representatives from the same community organisation were invited to be interviewed. Interviews were conducted by Apunipima staff with experience working with Aboriginal and Torres Strait Islander communities and included one Torres Strait Islander staff member.

### Awareness of campaign messaging

A 13-item intercept survey was administered post-implementation. Survey questions measured participants' awareness of

campaign materials including material type, location and whether exposure to campaign materials was perceived to contribute to changes in water or sugary drink consumption. Survey questions also measured level of awareness of changes to drink availability, and whether these changes were perceived to contribute to changes in water or sugary drink consumption. Apunipima staff were stationed at key locations (e.g. local store, community centre) over two days in each community and invited community members to participate. Inclusion criteria were being 18 years or older, having lived in the community for at least three months, and identifying as Aboriginal and/or Torres Strait Islander. Participants were offered an item of social marketing merchandise after completion of the survey.

Availability of sugary drinks and water

Baseline to post-implementation changes in availability of sugary drinks and water were measured at the community and store level. Community-level measures assessed infrastructure (e.g. number of water bubblers and physical access points for water and sugary drinks) and drink-related policies using geographic information systems mapping. Community organisations (e.g. schools, community centres, councils and health organisations) were consulted to determine organisational policies affecting drink availability.

Store-level measures included the number of water and sugary drink units (referred to as 'facings') stocked on shelves or in drinks fridges and other water and sugary drink merchandising practices. Data were collected

Figure 1: Healthy Communities Project logic model.
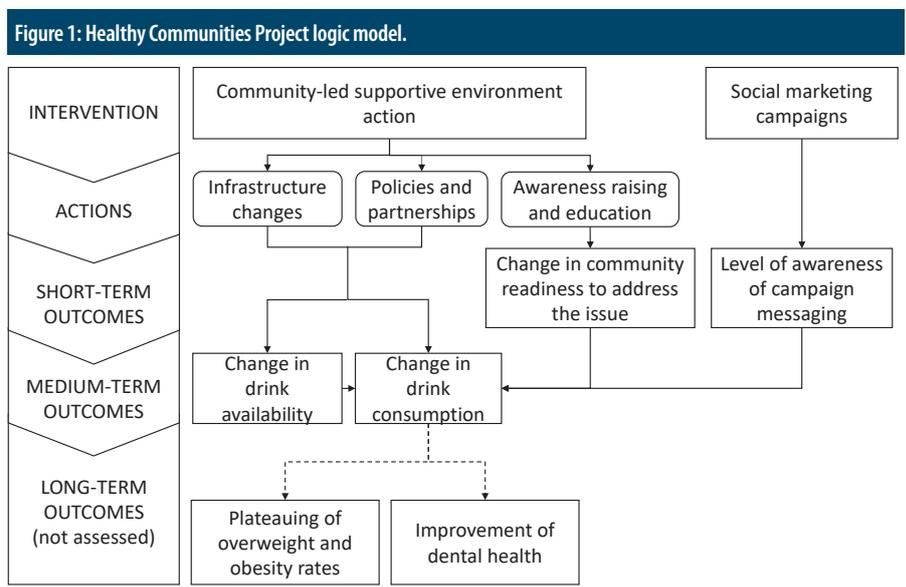
using a store environment assessment tool developed by Menzies School of Health Research.[15]

Community and store level measures were compared against intercept survey data on changes in drink availability observed by community members.

Consumption of sugary drinks and water

Store sales data in remote communities in Australia can provide an objective proxy of community-level consumption[16] and were therefore used to measure change in sugary drink and water consumption. Electronic data were sought for all project stores for a 12-month baseline period prior to implementation and the 12 months of implementation. A full dataset was obtained from store 3 in Community B and the control store. Outcome measures included volume and dollar value of water and sugary drinks sold as a proportion of total sales.

Intercept survey data on drink choice and perceived influence of the strategy on drink choice were also used to assess strategy impact on behaviour.

Data analysis

Community readiness

Interview responses were transcribed from recordings and quantified on a 9-point scale of increasing readiness ranging from 'no awareness' to 'community ownership'.[14] Community readiness scores were averaged across domains to produce an overall score and an applicable readiness category.[14] Interview data were arranged into key themes according to readiness domains by three Apunipima staff. Themes were cross-checked by two other staff and categorisation discrepancies were modified until consensus was reached.

Actions suggested by community leaders during interviews were combined with Community Advisory Committee feedback to form a list of supportive environment

actions. Suggested actions were entered into a table, which allowed for recording of actions as 'not implemented', 'in progress' and 'implemented' as the project proceeded. An action was considered implemented when a change in practice or measurable outcome was observed.

Awareness of campaign messaging

Intercept survey responses were tallied to produce a community-level indication of awareness of campaign materials (total and percentage). Awareness of campaign material formats (e.g. posters, social media) were quantified (total and percentage) and awareness of different campaign materials described.

Availability of sugary drinks and water

Community-level data were quantified to determine the number of supportive environment infrastructure points, physical access points and related policies at community organisations at baseline and post-implementation. Store-level data on facings were analysed to produce a total number of available drinks, an overall score for healthy merchandising practices at each store at baseline and post-implementation and percentage change between the two time points for both variables. Intercept survey responses were tallied to produce a community-level indication of awareness of changes in availability of water and sugary drinks (total and percentage).

Consumption of sugary drinks and water

Sales data were modelled using linear mixed models to estimate the relative change in drink sales during the intervention compared to baseline in the community store compared to the control store.

Intercept survey responses were tallied to produce a community-level indication of self-reported behaviour change regarding drink choice (total and percentage).

Ethical approval

Ethical approval was granted by the James Cook University Human Research Ethics Committee (HREC H6997) and the Northern Territory Department of Health and Menzies School of Health Research Human Research Ethics Committee (HREC 2017-2953).

Results

During the Healthy Communities Project, Apunipima staff facilitated 77 individual and group meetings with Community Advisory Committee members in Community A, 48 in Community B and 34 in Community C.

Change in community readiness

Community readiness assessment interviews were completed with 37 key stakeholders. As a mean score across all domains, community readiness to address the issue of sugary drink consumption was low at baseline in Community A and C ('denial/resistance' and 'vague awareness' stages, respectively) but increased in both communities (to 'preplanning' stage, see Table 1).[14] No change was shown in Community B (remained at 'preplanning' stage).[14]

Awareness of campaign messaging

A total of 97 community members completed intercept surveys. Awareness of the two-tier social marketing campaign was highest in Community A where 94% of community members reported exposure to campaign messaging compared to Community B and C (56% and 67%, respectively; Table 2). Reported exposure to physical marketing materials (posters and merchandise) and TV ads was higher than social media posts.

Availability of sugary drinks and water

Increased access to water was observed in each of the communities. Five additional organisations supplied water (14% increase) and two additional water bubblers were installed (11% increase; Table 2). One organisation in Community A had adopted a healthy drinks policy at post-implementation. Community B had increased access to sugary drinks at post-implementation, which included five workplaces supplying sugary drinks to staff for free and two organisations selling drinks for fundraising (233% increase). No change in infrastructure or policies affecting sugary drink availability

Table 1: Community readiness at baseline and post-implementation, by domain.							
		Domain of community readiness					
Community	**Time point**	**Knowledge of the issue**	**Community climate**	**Leadership**	**Knowledge of efforts**	**Resources to address the issue**	**Mean score across all domains**
A	Baseline (n=5)	3.4	2.6	3.4	1.4	2.6	2.7
	Post-implementation (n=8)	5.5	4.8	4.3	4.3	3.0	4.4
B	Baseline (n=6)	6.0	4.0	3.3	4.0	3.0	4.1
	Post-implementation (n=6)	5.7	3.3	3.7	4.3	3.7	4.1
C	Baseline (n=5)	5.0	3.0	2.2	2.6	3.0	3.2
	Post-implementation (n=7)	6.4	3.7	4.1	5.0	3.0	4.5

was observed in Community C. A higher proportion of survey participants across all communities reported observing a change in the availability of water compared to changes in sugary drink availability (43% vs. 15%; Table 2).

At the store level, increased facings of bottled water were observed in one store (300% in store 1 servicing Community A), and decreased facings were observed in two stores (2% and 35% in stores 2 and 3 servicing Communities A and B, respectively, see Table 2). No change in water facings was observed in the store servicing Community C. Decreases in sugary drink facings were observed in two stores (24% and 5% in stores 1 and 2 servicing Community A) and increases were observed in store 3 servicing Community B (36%) and store 4 servicing Community C (28%). Across all stores, facings of bottled water decreased (11%) while sugary drink facings increased (7%).

Increased healthy merchandising practices were observed at two stores (stores 2 and 3 servicing Communities A and B). These stores stopped stocking sugary drinks near the checkouts, had refrigerated water stocked at child's eye level and within arm's reach, and a price promotion on water and/or low sugar drinks was in place. Healthy practices were observed to decrease at two stores during

the study period (stores 1 and 4 servicing Communities A and C), with sugary drinks taking up more space than low sugar drinks, visible upon entering the store, and stocked in high-traffic areas.

Consumption of sugary drinks and water

Across all communities, a higher proportion of participants reported consuming more water compared to sugary drinks after seeing the campaign (49% vs. 21%; Table 2). Similarly, a higher proportion of participants reported choosing to drink more water with increased availability of water in communities compared to the perceived effect of availability changes on sugary drink choice (44% vs. 11%, respectively; Table 2).

In store 3 (Community B), water volume sales as a proportion of total drink volume sales increased by 3.1% ($p<0.001$) and water dollar sales as a proportion of total drink dollar sales increased by 1.3% ($p<0.001$) compared to the control store.

Sugary drink volume sales as a proportion of total drink volume sales decreased by 3.4% ($p<0.001$) and sugary drink dollar sales as a proportion of total drink dollar sales decreased by 1.4% ($p=0.02$) compared to the control store.

Discussion

These findings support the original hypothesis, that the combination of a social marketing campaign and community-led supportive environment actions has the potential to raise awareness of the benefits of increasing water consumption and reducing sugary drink consumption while simultaneously increasing the availability of healthier drink choices in communities. Awareness of social marketing messaging and increased availability of healthier drink choices contributed to positive changes in drink consumption in remote Aboriginal and Torres Strait Islander communities. Enabling factors included community involvement, aligning implemented activities to community readiness and a focus on positive messaging.

Community involvement in all aspects of program planning, delivery and evaluation is a major success factor of community nutrition programs.[17] Engagement was crucial to the co-design and impact of this project. Community A, which had the greatest number of committee meetings in response to their request for increased project team engagement, had the most pronounced positive outcomes. Community A was the only community to establish an

Table 2: Results of the intercept survey and drink availability measures.					
	Community A (n=31)	Community B (n=36)	Community C (n=30)	Total Communities (n=97)	
Intercept survey item (n (%))[a]					
Aware of the social marketing campaign	29 (94)	20 (56)	20 (67)	69 (71)	
Chose to consume more water after seeing the campaign	20 (69)	14 (39)	14 (47)	48 (49)	
Chose to consume fewer sugary drinks after seeing the campaign	9 (31)	7 (19)	4 (13)	20 (21)	
Aware of a change in availability of water in places in community	7 (23)	19 (53)	16 (53)	42 (43)	
Aware of a change in availability of sugary drinks in places in community	4 (13)	2 (6)	9 (30)	15 (15)	
Changes in availability of water helped participant to choose to consume more water	11 (35)	17 (47)	15 (50)	43 (44)	
Changes in availability of sugary drinks helped participant to choose to consume fewer sugary drinks	1 (3)	2 (6)	8 (27)	11 (11)	
Community level drink availability measure					
Setting-based drinking water access points (n change (% change))[b]	2 (14)	3 (23)	0 (0)	5 (14)	
Access to working water bubblers (n change (% change))	-1 (-17)	0 (0)	2 (25)	1 (5)	
Setting-based sugary drink access points (n change (% change))[c]	0 (0)	7 (233)	0 (0)	7 (100)	
Healthy drink policy adopted	Yes	No	No		
In-store drink availability measure	Store 1	Store 2	Store 3	Store 4	All stores
Bottled water facings (n change (% change))[d]	21 (300)	-2 (-25)	-35 (-30)	0 (0)	-16 (-11%)
Sugary drink facings (n change, % change)	-23 (-24%)	-5 (-5)	36 (15)	28 (31)	36 (7)
Healthy in-store merchandising practices[e]	Weakened	Strengthened	Strengthened	Weakened	

Notes:

a: Five items of the 13-item intercept survey were omitted from analysis due to a lack of baseline data needed to quantify change

b: Setting-based drinking water access points included organisations and places in community that provided water for free (e.g. school, workplaces) or sold bottled water (e.g. store)

c: Setting-based sugary drink access points included organisations and places in community that provided sugary drinks for free (e.g. workplaces, aged care centre) or sold sugary drinks (e.g. store)

d: Increases in water facings occurred due to actions completed by the project team at the request of store managers including purchasing and installing new water-only drinks fridges

e: Healthy in-store merchandising practices concerned the price, promotion and placement of drinks in stores. Healthy practices included selling water at cost price, placing materials (e.g. posters, stickers) promoting water near water fridges, and moving water to high-traffic areas while moving sugary drinks towards the back of the shop

organisational drink-related policy during the project period. Community A also saw the largest increase in community readiness, demonstrating that time and engagement are required to increase community readiness, establish policies in community organisations, encourage community investment in the project, and deliver positive outcomes.[17]

When mapped against categories of readiness described in the Community Readiness Assessment tool handbook, actions implemented aligned with levels of readiness observed in each community. While unintended, this finding points to a strength of the Community Readiness Assessment tool when used to prioritise interventions appropriate to a community's readiness for change. For example, where low levels of readiness were identified, education and awareness-raising activities require emphasis. Activity relating to infrastructure changes and policies and partnerships can be incorporated where a higher level of readiness is observed. However, the correlation between readiness at baseline and prioritised activities may be somewhat biased, as most interviewees were Community Advisory Committee members and involved in the prioritisation process. Further research is required to explore the use of the Community Readiness Assessment tool in community action planning.

Positive campaign messaging promoting the benefits of water, as requested by communities, appeared to be more effective in changing behaviour than negative messaging discouraging sugary drinks. Qualitative research on anti-tobacco marketing campaigns found Aboriginal and Torres Strait Islander audiences disengaged with fear-based messages.[18] There are no studies of reactions to negative messaging concerning sugary drink consumption among Aboriginal and Torres Strait Islander audiences, and this study offers some insights.

The project's pronounced effect on water consumption may be further explained by infrastructure changes and awareness activities affecting water availability being perceived as more overt than initiatives affecting sugary drink availability. Interventions to increase access to water were highly visible, including the installation of water bubblers and provision of branded reusable water bottles and other free merchandise promoting water in communities. While social marketing

and supportive environment actions that encouraged increased water consumption gained greater community support and resulted in increased self-reported water consumption compared to sugary drinks, store sales data showed a consistent improvement for both water and sugary drink sales. Another multi-sectoral community engagement approach to improving the food environment in remote Aboriginal and Torres Strait Islander communities was associated with an increase in store water sales in each of the four participating communities and a variable effect on soft drink sales over a five-year period.[19] This study did not focus specifically on reducing soft drink consumption, but aimed to advance knowledge on how to facilitate a multi-sectoral approach to action planning including assessment and feedback on the healthiness of food environments to support community-level decision making. Further studies are required to determine how reductions in sugary drink consumption can continue to be achieved in remote Aboriginal and Torres Strait Islander communities.

There were a number of challenges to implementing the Healthy Communities Project, such as the availability of store sales and merchandising practices data. Caution must be exercised when interpreting sales data as only one community store was able to provide complete sales data for the baseline and intervention periods. The ability to generalise findings to other communities is limited. Further, other Cape York communities were exposed to social marketing campaign materials, including the community for which control store sales data was obtained. Exposure to the campaign may have affected store sales in the control community, potentially underestimating the effect size in the project community store. Drink facings and in-store merchandising practices were recorded at two time points only, which did not account for normal fluctuations in store stock and practices on any given day. This may explain why an increase in sugary drink facings, but a reduction in sugary drink sales, was found in the same store.

Project duration presented further challenges. Twelve months is a short timeframe to implement a multi-strategy health promotion project in a remote context, which reflects the current paucity of resources to support nutrition promotion in this setting, relative to previous investments.[20] This study has demonstrated the potential benefits of a

community-led approach, facilitated by an Aboriginal Community Controlled Health Organisation, for community engagement and project outcomes. Longer-term funding would have enabled the project team to further build communities' understanding of health promotion concepts and strengthen relationships and trust within communities, which would likely have enhanced planning with communities for project sustainability.

Implications for public health

Current resources for nutrition promotion in Queensland's remote Aboriginal and Torres Strait Islander communities are limited compared to previous investments. Future funding must consider the high level of community engagement required to effectively support communities to move through the stages of readiness and support an enabling environment for healthier choices. Engagement with Aboriginal Shire Councils, community leaders and the wider community to co-design social marketing materials and supportive environment actions is key to health promotion in remote Aboriginal and Torres Strait Islander communities.

The importance of a collaborative approach to co-designing culturally appropriate social marketing materials and local actions with community members and employing Aboriginal and Torres Strait Islander staff to facilitate engagement, must be considered in future work. Positive social marketing messaging about the benefits of behaviour change show promise in Aboriginal and Torres Strait Islander communities.

Overconsumption of sugary drinks is prevalent in remote Aboriginal and Torres Strait Islander communities with many influencing factors. This study demonstrated some effective behaviour change strategies worth further investigation. Longer-term effectiveness of community-led supportive environment approaches to health behaviour change could be explored with extended funding. This would offer longer-term solutions to the health disparity experienced by Aboriginal and Torres Strait Islander populations in remote communities.

Conclusion

Taking a collaborative approach to develop and implement a co-designed social marketing campaign and community-led

supportive environment actions can improve access to healthier drinks and may affect consumption of sugary drinks and water in remote Aboriginal and Torres Strait Islander communities. Community involvement, aligning implemented activities to community readiness and a focus on positive messaging are likely to contribute to these positive outcomes.

Aboriginal Shire Councils and local organisations are well-placed to be supported to take action in their communities and create healthy places that support healthy choices.

Acknowledgements

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