

# The Pacific OPIC Project (Obesity Prevention In Communities): Action Plans and Interventions

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## Abstract

**Background:** *The Pacific OPIC Project (Obesity Prevention In Communities) includes whole-of-community intervention programs in four countries (Fiji, Tonga, New Zealand, Australia) aimed at reducing the prevalence of overweight and obesity in youth.*

**Development of Action Plans:** *At each intervention site, preliminary interviews were conducted with youth to identify the potential socio-cultural barriers and facilitators to healthy eating and regular physical activity in order to attain and sustain a healthy body size. This and other information was presented at a 2-day workshop with community stakeholders, including youth. The participants then prioritised the components for a draft action plan which was later consolidated through further community consultation.*

**Action Plan objectives:** *Each action plan had two overall aims: to build community capacity and to promote healthy weight. The first three objectives in each action plan were on capacity building, social marketing messages, and evaluation. Next were a set of four to five behavioural objectives with associated strategies involving programs, events, social marketing and environmental change. Lastly, each site had one or two innovative or developmental objectives.*

**Progress:** *Interventions began in all sites from 2005, with the action plans guiding implementation priorities. The initial behavioural objective for targeting in Fiji was eating regular breakfast and meals throughout the day, for Tonga it was physical activity, and for Australia and New Zealand it was increasing water consumption and decreasing consumption of sweet drinks.*

**Conclusions:** *The action plans have provided the basis for community engagement in the project, the guide to the implementation of activities and the template for the evaluation plan.*

## Introduction

Overweight and obesity is increasing in most countries but prevalence rates are particularly high and increasing rapidly in Pacific populations. While in adults, the prevalence is very high for Pacific populations both living in the Pacific or in New Zealand, for young adolescents, it is much higher in New Zealand. It is likely that socio-cultural factors play a large part in the development of obesity. Any intervention programs, therefore, need to take into account the main behaviours and underlying socio-cultural factors that are contributing to obesity.

Health promotion action at a community level needs to become embedded in the organisations working in that community and to ensure that the community owns and embraces the action. The challenges are considerable, particularly in achieving a sufficiently high and sustainable

‘dose’ of intervention and evaluating the process, impacts and outcomes to a sufficiently high standard given all the constraints associated with such projects. While these challenges are recognised, the problem of obesity, especially in Pacific populations, needs to be addressed at all levels – community, national, and global.

The Pacific OPIC (Obesity Prevention In Communities) project is a 4-country study funded by the Wellcome Trust (UK), the Health Research Council (New Zealand), and the National Health and Medical Research Council (Australia) over 5 years (2004-2009) which targets young people aged 12-18 years. The four community intervention studies described here are accompanied by supporting analytical studies of socio-cultural determinants, economic analyses and policy analyses (for full description, see Swinburn, et al<sup>10</sup>). The intervention studies are quasi-experimental with control communities for each study. The intervention period

is 3 years. The interventions aim to have a balance across nutrition and physical activity promotion and place a high priority on capacity building.

The aim of the current paper is to describe the general processes adopted by the Pacific OPIC Project to develop plans of action. These plans focus on the elements required for planning, formulating and coordinating interventions and conducting the evaluation process.

## Intervention Sites

The intervention community chosen in Fiji was Nasinu, a peri-urban area along the corridor between Suva and the airport at Nausori on the south east side of the main island of Viti Levu. Seven secondary schools in Nasinu are the primary setting for the intervention and the ethnic mix of the students (about two-thirds Indigenous Fijian and one-third Indo-Fijian) is reflective of the area. Church/religious groups and homes are also important settings for intervention because of their influences on adolescents' behaviours.

The intervention communities in Tonga (Nukunuku, Houma, Kolonga) primarily consist of three districts; a district is determined by geographical location and size of the population. Geographically, Houma and Nukunuku districts are located on the Western side of Tongatapu while Kolonga is located to the East. Each district is made up of a group of villages. Each district has a health centre and youth groups and women's groups are common features of the villages. Only about 20% of young people (n=331) attend the schools located within the intervention communities. The majority go to schools that are located outside the intervention communities, predominately in Nuku'alofa – the capital of Tongatapu. Consequently, a number of these schools have been selected for intervention.

In New Zealand, the intervention community is based in Mangere, South Auckland. Mangere has a youthful and culturally diverse population; 40% of the population are aged under 20 years and approximately 60% represent Pacific ethnicities. Four secondary schools were selected as the primary intervention sites but a number of churches were also identified as important intervention settings after the baseline data collection identified the churches which were most commonly attended by the students.

The intervention community in the East Geelong / Bellarine Peninsula in south Victoria includes five intervention schools which are the main settings for intervention. The community is predominantly European, with small pockets of other ethnic communities within the intervention site, and the average socio-economic status of the area is low. The potential for interventions in community settings other than schools is less at this site since few students attend church. Further details of the definitions of the denominator populations for the intervention and comparison groups at all sites are described in the accompanying paper by Swinburn, et al<sup>10</sup>

## Planning and Community Engagement Process

Since the intervention communities were purposively chosen, a process of community engagement and support preceded action in each site.

### *Gaining communities support for and commitment to the project*

In Fiji, the Ministry of Education officially wrote to all principals of secondary schools within the intervention area and the comparison schools expressing its endorsement and support. Contacts with secondary school principals, community/church/religious leaders, and local town councils were made to arrange for a series of meetings with teachers in schools, community and church groups, and local town councillors. An intensive awareness programme followed involving presentations on what the project is about, who are involved, the benefits of the project for the school students and the wider Nasinu community (and the potential benefits to the country) and to seek their support as partners.

In Tonga, initial conversations began with the Ministry of Health staff at health centres, town officers and church ministers. Meetings were held with other stakeholders including Ministry of Health Head Office and its staff, the Health Promotion Unit, the Ministry of Education, education administrators of church schools, school principals, youth leaders, women's groups, and key village people. Research staff also attended meetings of existing health programmes as entry points into the communities.

### ***It is likely that socio-cultural factors play a large part in the development of obesity.***

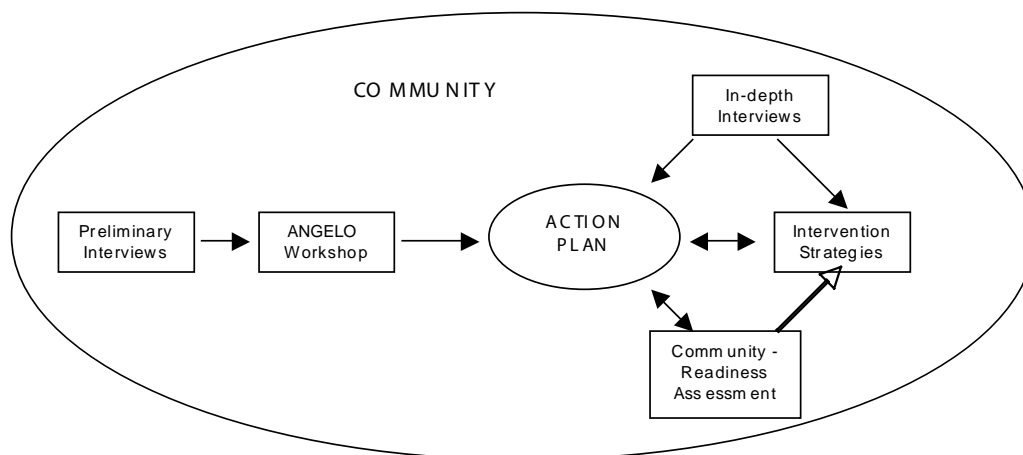
In New Zealand, the principal investigators met with each of the principals at the four intervention schools to discuss the purpose of the project and gain the school's

support. The principal investigators also received letters of support from the Ministry of Health. In Australia, initial consultations and planning began with the Department of Human Services and with the key stakeholders within the intervention area regarding the appropriateness of the location for the project. The research team met with each of the principals of the five schools to discuss the project, logistics, timeframe and expected outcomes.

### *Developing the draft action plans*

Figure 1 describes the model of the OPIC community interaction process. The steps taken to develop the action plans were conducted within the context of the communities; key community members and stakeholders were involved in all aspects of the process.

Figure 1. OPIC Community Interaction Model



**Phase 1 – Preliminary assessment of socio-cultural factors**

Preliminary interviews were conducted to determine the perceptions of 12-18 year olds in terms of three themes: food and eating, activity and inactivity, and preferred body size. The description of how the interviews were conducted is described elsewhere<sup>10</sup>. Findings from the interviews informed and shaped the community workshops and baseline questionnaire and indicated that youth:

- knew about healthy food and drinks,
- often buy junk food with spending money that was not monitored by adults,
- identified mothers as messenger about food while fathers provided more messages about exercise,
- thought boys had more freedom than girls to exercise and in Fiji, Indo-Fijians prioritise study over exercise,
- identified media, peers and sports stars as important messengers relating to body size, shape and muscularity.

The findings of the socio-cultural interviews were included in the materials developed for the community workshops for the four sites.

**Phase 2 – Community workshops to develop the draft action plans**

Once the community consultations and preliminary socio-cultural studies took place, each site organised a community workshop with key stakeholders to develop a draft action plan. The community workshop used the ANGELO framework based on an Analysis Grid for Elements Linked to Obesity<sup>11</sup>. The original ANGELO framework centred on obesogenic environments but this was augmented by identifying potential behaviours for targeting, knowledge and skill gaps to fill, in addition to environmental barriers

in the homes, schools, churches and communities that needed to be addressed. In brief, all of the elements were informed by the preliminary socio-cultural interviews prior to each workshop (approximately 15-20 potential behaviours, 15-20 potential knowledge and skills gaps, and 10-25 environmental barriers in each of the settings). The environmental barriers were classified as physical (what is or isn't available), economic (what are the financial factors), policy (what are the rules) and socio-cultural (what are the beliefs, values, attitudes, perceptions and community practices).

At the 2-day ANGELO workshop, students, teachers, and people from the communities and related organisations

***The strategies should be congruent with the stage of readiness and be culturally appropriate (the latter was addressed through the in-depth socio-cultural interviews).***

were updated on the issues related to obesity and available local data on the problem. The participants were then taken through a process of prioritisation of the various elements. Individuals first checked and altered the elements if

necessary and then scored each element for importance and changeability. Group aggregate scores were combined to identify the priority behaviours, knowledge and skill gaps, and environmental barriers that relate to obesity. From these priority elements, a draft action plan was developed by the end of the two day workshop.

The strategies should be congruent with the stage of readiness and be culturally appropriate (the latter was addressed through the in-depth socio-cultural interviews).

The action plan is expected to be used as a living document which evolves throughout the project. This provides structure for the interventions as well as content for some of the process evaluation. Brief descriptions of the community interaction process for each site and sample action plans are described below.

## Fiji: 'Healthy Youth Healthy Communities'

### ANGELO Workshop

A two day ANGELO workshop was conducted in August 2004 to develop a plan of action for intervention within the Nasinu community. Representatives from schools (students, teachers, Parents and Teachers Association, and School Board), church religious groups within the Nasinu area,

organisations operating within the intervention area, and leaders from the three major settlements in the intervention area participated. The workshop resulted in the completion of a draft action plan and behavioural objectives to guide the interventions. The behavioural and innovation objectives of the action plan for the Fiji *Healthy Youth Healthy Community* project are described in Table 1.

**Table 1. Behavioural and innovation objectives of the Fiji 'Healthy Youth Healthy Communities' Action Plan<sup>1</sup>**

**Aim:** To improve the health and wellbeing of individuals and strengthen the Nasinu Community through healthy eating and physical activity

Objectives	Key Strategies
1. To significantly reduce the proportion of adolescents who skip breakfast on school days.	<ul style="list-style-type: none"> <li>Promote breakfast with students and parents – pamphlets &amp; school assembly morning talks</li> <li>School canteen providing breakfast</li> </ul>
2. To improve the healthiness of food at school by significantly decreasing the consumption of high sugar drinks and promoting the consumption of water and by significantly increasing fruit and vegetable consumption	<ul style="list-style-type: none"> <li>Develop school policies for canteens to support water, fruit and vegetable consumption</li> <li>Curriculum development with Home Economics and Agricultural Science</li> </ul>
3. To significantly decrease the consumption of energy dense snacks and significantly increase consumption of fruit as afternoon snacks	<ul style="list-style-type: none"> <li>Social marketing [include fruits (&amp; vegetables) for snacks and benefits of F &amp; V; what constitutes healthy snack</li> <li>Student information on healthy snacks, F &amp; V snacks</li> </ul>
4. To significantly increase the proportion of adolescents living within walking distance to school to walk to and from school with a sense of safety	<ul style="list-style-type: none"> <li>"Walking buddies"</li> <li>Road safety skills</li> </ul>
5. To support physical education teachers to conduct physical education classes effectively	<ul style="list-style-type: none"> <li>School policy on physical education classes</li> <li>Partnership with organizations to provide equipment such as hoops, ropes, other sports equipment</li> </ul>
6. To significantly increase the amount of active play after school and on weekends and significantly decrease the time spent watching TV and playing on computers or electronic games	<ul style="list-style-type: none"> <li>House rules on screen time and outside play time</li> <li>School walkathon</li> </ul>
7. To develop a program for promoting healthy eating and physical activity within churches, mosques, and temples	<ul style="list-style-type: none"> <li>Food Preparation Skills</li> <li>Budgeting skills</li> </ul>

<sup>1</sup> Standard objectives on capacity building, social marketing messages and evaluation not shown

### Choice of Name

During a social marketing workshop conducted in early 2005, participants developed a list of possible names for the Nasinu intervention. These names were reviewed by community members during focus groups to identify the

most commonly selected one. The name (*Healthy Youth Healthy Communities*) and ideas for graphic representation were further developed by a graphic artist and retested with a community group before the logo was finalised.

## Tonga: 'Ma'alahi Youth'

### ANGELO Workshop

The ANGELO Workshop for the Tonga intervention took place

in March 2005. Participants included adults, young people and students from the three intervention communities. The resulting behavioural and program objectives of the action plan for the Ma'alahi Youth project are described in Table 2.

**Table 2. Behavioural and innovation objectives of the Tonga 'Ma'alahi Youth' Action Plan<sup>1</sup>**

**Aim:** To increase the capacity of Nukunuku, Houma and Kolonga districts to promote healthy eating and regular physical activity amongst the youth and reduce the rates of overweight and obesity.

Objectives	Key Strategies
1. To significantly increase the proportion of youth who eat healthy breakfast on school days.	<ul style="list-style-type: none"> <li>Promote eating breakfast before school for students</li> <li>Parent, teachers and student information and motivation</li> </ul>
2. To significantly increase the proportion of youth who eat (a healthy) school lunch	<ul style="list-style-type: none"> <li>Develop policies for canteens and food vendors</li> <li>Parent, teachers and students information and motivation</li> </ul>
3. To significantly increase the consumption of vegetables and fruits for youth	<ul style="list-style-type: none"> <li>Develop programs for growing vegetables and fruits</li> <li>Parents and youth information and motivation</li> </ul>
4. To significantly increase the participation in physical activities and informal activities (especially for girls)	<ul style="list-style-type: none"> <li>Village walking groups</li> <li>Keeping the village clean program</li> </ul>
5. To significantly increase the participation in organized sports, especially for girls	<ul style="list-style-type: none"> <li>Develop policies promoting mandatory PE at schools</li> <li>Community indoor and outdoor facilities</li> </ul>
6. To promote water consumption and significantly reduce the consumption of sweet drinks.	<ul style="list-style-type: none"> <li>Introduction of water policies in intervention schools churches, celebrations</li> <li>Parents, teachers, students information and motivation</li> </ul>
7. To develop a programme where village and church leaders are champions for healthy eating and regular physical activity.	<ul style="list-style-type: none"> <li>Champion program for key people as role models.</li> </ul>

<sup>1</sup> Standard objectives on capacity building, social marketing messages and evaluation not shown

### Choice of Name

Literally translated, "Ma'a" means clean and "Lahi" means big. The word Ma'alahi was coined by young people as a slogan to describe something beautiful, neat, tidy or clean. At the inception of the National Non-Communicable Disease (NCD) project by the Tonga Ministry of Health, 'Ma'alahi' was used as a social marketing slogan for promoting physical activity and other NCD related messages. The Tongan intervention communities adopted Ma'alahi, to link it to the National NCD programs; the addition of the term "Youth" indicates the target population of the project and distinguishes it from the NCD project.

## Mangere: Living 4 Life

### ANGELO Workshop

The Mangere ANGELO workshop was held over two days in August 2004. Attendees included representatives from schools (students and staff, including teachers, counsellors, health providers), the National Heart Foundation, the local city council, the Ministry of Health, the Pacific Island Food and Nutrition Action Group, Counties Manukau District Health Board, Counties Manukau Sport, and local area health providers. The workshop resulted in the completion of an action plan and behavioural objectives to guide the school-based interventions.

### Choice of Name

Students from the intervention schools participated in a competition to generate a name for the Mangere intervention. The 'Living 4 Life' name was chosen by the students and agreed upon in consultation with the staff and students from all four schools.

## East Geelong: 'It's Your Move!'

### ANGELO Workshop

Students from the five secondary schools attended the two day ANGELO workshop in November 2004, which included the process and development of the interventions within their schools and the community. An innovative objective was included as a result of conversations with the youth, which was to improve at an individual level, their overall body image through education and awareness raising programs. At the workshop, the framework developed by a similar project ('Be Active, Eat Well') already underway in a nearby town of Colac was adapted for use in 'It's Your Move!'. Further development of the objectives and strategies included extensive development with the Reference Committee (which included the principals), the Project Management Team (including the School Project Officers) and the youth of the intervention schools through various workshops and focus groups.

### Choice of Name

In early 2005, students from two of the intervention schools participated in a focus group to design and develop the name of the project ('It's Your Move!'). The title of the project was then given to teachers of Graphic Design, who further developed it and gave the design brief back to the students within their classes. Upon completion, teachers submitted their students work to a local graphic artist, who selected an image to develop. Upon selection of the image, the students worked closely with the graphic artist to refine and colour the final image.

## Community Engagement and Intervention Strategies

Once the Action Plans were drafted, key stakeholders were again consulted to determine the types of strategies that were important and appropriate for their communities. In Fiji, two working groups were formed to implement the action plan. The first was the Local Steering Committee whose membership comprised of representatives of all major stakeholders at Ministerial levels (Health, Education, Women), school focal points for the Healthy Youth Healthy Communities project, local town council, and health centres in the intervention area. The brief of this committee is to advise and support the project team with implementation and act as a link between their respective organisations and the project staff. The second group comprised the individual School Implementation Committees for each of the intervention schools. The members of the School Implementation Committees include teachers, students, school administration, and canteen managers. The School Implementation Committee's brief is to support the project by implementing the action plan in their school setting. The Committees meet fortnightly on their own and with a member of the Healthy Youth Healthy Communities team at least monthly to plan and monitor project activities.

The initial behavioural objective targeted by the Healthy Youth Healthy Community intervention addresses the issue of students missing breakfast. Schools are using multiple strategies to encourage students to eat a healthy breakfast. Intervention strategies include social marketing through pamphlets targeting students and parents; promotion of breakfast by students during parent interview days; school canteens opening early to sell breakfast (sandwiches) before school starts; and education through skills development for students in time management.

In Tonga, the Ma'alahi Youth Project team has linked up with the Healthy Islands Committee in each district, village committees, youth groups, and church groups to work towards implementing the intervention. Other linkages are currently being explored with other community development projects already operating in the communities to ensure sustained community action. The Ma'alahi Youth Project team members are in the process of identifying key people

in each village to act as role models and to help drive the project forward.

The initial behavioural objective addressed by Ma'alahi Youth targets physical activity. Strategies to promote physical activities include weekly village walking groups; a 'keeping the village clean programme'; and aerobics for all youth and targeted programmes for mothers and daughters.

In Mangere, once the action plans were drafted, school staff and students became more actively engaged in determining the types of strategies that were important and appropriate for their school. During the first year of the intervention, an inter-school committee was organised and met monthly to allow for support and collaboration between schools. The inter-school committee had representative staff and students from each school. Simultaneously, Student Health Councils (SHC) were organised in each school for students interested in being involved in supporting the objectives of the project. Students participating in the SHC meet weekly within their school and once per school term as a collective with SHC members from other intervention schools. SHC members receive education and training in issues relevant to

### *The initial behavioural objective targeted by the Healthy Youth Healthy Community intervention addresses the issue of students missing breakfast.*

obesity and nutrition and are responsible for promoting the objectives of the project and initiating change within the schools. The SHC consult with key school staff and initiate intervention strategies that are appropriate for their school. Additionally, community organisations

interested in physical activity, nutrition or obesity have been working with the schools to promote the objectives for the project. Examples of the types of community organisation engaged with the intervention schools include the National Heart Foundation, Counties Manukau Sport, Counties Manukau District Health Board and local area health providers.

The initial objective targeted by the Living 4 Life schools was to decrease consumption of sweet drinks and increase consumption of water. Examples of intervention strategies to achieve this include: social marketing campaigns developed by students; distribution of water bottles to students and staff, education through school newsletters and parent evening sessions, installation of new water fountains in strategically placed locations in the schools, and implementation of a school water policy.

In Australia, upon the completion of the ANGELO workshop, a teacher within each of the intervention schools was appointed as a School Project Officer to coordinate the running of the project within their school and work with the students to improve the environment, curriculum and overall health of young people. Students who were initially invited to attend the ANGELO workshop, were asked to extend their involvement in the project to become the Ambassadors/ role models for It's Your Move! The School Project Officers received formal training in Social Marketing in September of 2005. At this workshop, they gained the necessary skills to use social marketing communication to change attitudes, behaviours and beliefs of young people and their communities. For student input and development

of the action plan, a workshop was held with students from the five intervention schools to work through the process of developing interventions in their school. Student Ambassadors have also received media training facilitated by the Department of Health to ensure their messages are delivered more effectively. Concurrently, local organisations are reorienting their priorities to include obesity prevention and local and state governments have also been proactive in obesity prevention within Victoria.

It's Your Move! primarily focused on the initial objective of increasing water consumption and decreasing consumption of sweet drinks. Intervention strategies to promote water consumption include: social marketing through water bottles, screen savers and posters; educations through the school curriculum and professional development with teachers and staff; increasing the number of water dispensers within the school and the community; and implementation of a water policy.

## Conclusions

Obesity is a major public health concern internationally with especially high rates of obesity in many of the Pacific regions and among Pacific Island people living in New Zealand. Strategies to reduce child and adolescent obesity in the total population must include targeted programmes for those most at risk<sup>13</sup>. This requires consideration of how the factors that contribute to obesity in the main population might differ in populations with different socio-cultural characteristics<sup>13</sup>. The plans of action for each site of the OPIC project were developed within the context of the local communities. The action plans are living documents to ensure ongoing feedback and participation of key community stakeholders. The preliminary successes in engaging community members to support the OPIC project, development of the action plans and initial strategies undertaken in the intervention communities have reinforced the community interaction process utilised by the project teams. The action plans will also provide the framework for evaluation to determine the overall effectiveness of the OPIC interventions.

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## Massey University is committed to helping Pacific communities develop

Massey University has made a commitment to the Pacific community through its Pasifika@Massey strategy – written by Pacific people to benefit Pacific peoples in New Zealand and throughout the region. The Pasifika@Massey Strategy aims to increase gains for Pacific peoples through teaching, research and consultancy services and to make a positive contribution to Pacific communities and Pacific nations. These aims recognise Massey University's strategic role in the wider Pacific region, committed to the advancement of Pacific peoples, whether in New Zealand or in Island states.

Massey University is:

- Building the capability of Pacific people to build Pacific communities
- Making tertiary study accessible to Pacific learners through our Extramural distance learning programme, regional learning communities and campuses at Auckland, Palmerston North and Wellington, with supportive environments and Pacific staff and students to mentor and encourage
- Reinforcing ties with Pacific nations, student and staff exchanges, joint research projects, mentoring and guardianship
- Doing research using Pacific research methodologies, and sharing the knowledge back with Pacific communities.

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