Deadly Choices Health Promotion Initiative Evaluation Report

January 1 – December 31, 2013

By Claire Malseed

This report will summarise results from an evaluation of the Deadly Choices Health Education initiative conducted in 2013. This research project was supported by a Lowitja Institute small grant.

IUIH institute for urban indigenous health

The University of Queensland Australia

the Lowitja Institute
Australia's National Institute for Aboriginal and Torres Strait Islander Health Research
Incorporating the Cooperative Research Centre for Aboriginal and Torres Strait Islander Health

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EXECUTIVE SUMMARY

Background

Preventable chronic diseases are the major contributors to the 'health gap' between Aboriginal and Torres Strait Islander people and other Australians. These chronic diseases share common risk factors including poor quality diet, physical inactivity, smoking and central obesity (3). Other factors contributing to health inequalities for Aboriginal and Torres Strait Islander people include low levels of access to primary health care services (4), poor health literacy (5, 6) and other key social determinants of health (7). Despite the need for effective health promotion initiatives targeting these risk factors, there is very little literature or evidence describing the impact of health promotion initiatives for Aboriginal and Torres Strait Islander people, and most projects are focussed on remote and rural Aboriginal and Torres Strait Islander communities.

Deadly Choices in an initiative of the Institute for Urban Indigenous Health (IUIH) in South East Queensland and is funded by the Commonwealth Department of Health & Ageing. Deadly Choices is a school and community-based chronic disease prevention and education initiative that encourages Aboriginal and Torres Strait Islander people in South East Queensland to make healthy choices, focusing on chronic diseases and their risk factors such as nutrition, physical activity, smoking and harmful substances. This evaluation investigated the impact of the Deadly Choices initiative; including the seven week school based health education program, community-group program and community events, between April and October, 2013.

Aims

The purpose of this report is to describe the results of a comprehensive impact and outcome evaluation of the Deadly Choices program, a health promotion initiative developed by, and for, Aboriginal and Torres Strait Islander people in urban areas. This project was supported by a Lowitja Institute small grant. The evaluation had the following aims:

1. To describe in detail the base-line knowledge of urban-dwelling Aboriginal and Torres Strait Islander people regarding chronic disease and it's risk factors
2. To explore the impact of 'Deadly Choices' health promotion/education initiatives on a) knowledge, b) attitudes and c) behaviour of urban dwelling Aboriginal and Torres Strait Islander people in the topics covered by the 'Deadly Choices' Program.
3. To explore the reasons for healthy lifestyle choices in the lives of urban Aboriginal and Torres Strait Islander people
4. To explore the impact of the 'Deadly Choices' program on urban Aboriginal and Torres Strait Islander people accessing local Aboriginal and Torres Strait Islander community health services.

Methods

To meet these aims, this evaluation utilised a mixed methods approach including qualitative and quantitative data collection methods. This included pre/post questionnaires to assess changes in knowledge, attitudes and behaviours; interviews to explore in further detail the impact of Deadly Choices; and an audit trail to assess the impact of the health screening activities at community events.

Results

Results indicate that the Deadly Choices school-based program improved the knowledge, attitudes, self-efficacy and behaviours of Aboriginal and Torres Strait Islander young people in South East Queensland regarding leadership, chronic disease and risk factors. The school-based program also facilitated the uptake of Aboriginal and Torres Strait Islander health checks (MBS item 715) for young people within the program. Results also indicate there are a range of barriers and facilitators and differing perceptions around health for these Aboriginal and Torres Strait Islander young people.

Results suggest that the Deadly Choices community events improved participant's health literacy regarding chronic disease risk factors; facilitated community engagement with local health services; provided an opportunity for Aboriginal and Torres Strait Islander people to increase social connections; and indirectly increased community awareness around health and physical activity.

Due to a lack of attendance at the seven-week community group program for adult participants, results were not analysed for this component of the evaluation.

Conclusion and Recommendations

The findings show that the Deadly Choices initiative was successful in improving health knowledge, attitudes, self-efficacy and behaviours regarding chronic disease and risk factors; and in line with program objectives has empowered participants to be positive role models in reshaping health, lifestyle and physical activity choices within the community. In addition, the Deadly Choices initiative has demonstrated an innovative approach to increasing community engagement with local health services including the uptake of health checks.

The results from this evaluation will inform improvements and enhancements to the Deadly Choices initiative relating to program and event education content; maximising health checks/screens; and improving program attendance. In addition, recommendations have been provided for ongoing program evaluation.

1. Background

Aboriginal and Torres Strait Islander people experience a burden of disease two-and-half times that of the wider Australian population (1). Chronic diseases such as cardiovascular disease, diabetes, respiratory diseases, cancers and mental disorders such as depression are the main contributors to this disease burden (2). Many of these chronic diseases are preventable and share common risk factors including poor quality diet, physical inactivity, smoking and central obesity (3). Other factors contributing to health inequalities for Aboriginal and Torres Strait Islander people include low levels of access to primary health care services (4), poor health literacy (5, 6) and other key social determinants of health (7).

1.1 Aboriginal and Torres Strait Islander Health Promotion

There is very little literature or evidence describing the impact of health promotion initiatives for Aboriginal and Torres Strait Islander people, and most projects are focused on remote and rural Aboriginal and Torres Strait Islander communities. Although there are significant and complex needs in rural and remote areas which need to be addressed, the majority of the health “gap” has been found to effect urban and regional Aboriginal and Torres Strait Islander people [1].

In the development of programs and resources, an approach that builds on the strengths, knowledge, capacities, cultural assets and the resourcefulness of the Aboriginal and Torres Strait Islander community has been advocated for by researchers and practitioners in health promotion [2]. This is particularly crucial where a history of negative labeling and a focus on deficits may have existed in an Aboriginal and Torres Strait Islander context [3].

1.2 Health Education

Health literacy has been recognised as an important social determinant of health [4] and is thought to be a better predictor of health status that education, socio-economic status, employment, race or gender (Weiss, 2007). By increasing an individuals’ capacity to access and use health information, health literacy is crucial to individual and community empowerment [5]. Available health literacy studies which focus on Aboriginal and Torres

Strait Islander people suggest that poor health literacy is a likely contributor to adverse health conditions including poor glycemic control and harmful oral health behaviours (Parker & Jamieson, 2010; Taylor & McDermott, 2010). Therefore, health education strategies which aim to improve health knowledge are an important part of broader health promotion strategies targeting reductions in chronic disease.

1.3 Aboriginal and Torres Strait Islander Health Checks

Another contributor to the chronic disease burden for Aboriginal and Torres Strait Islander people is poor access to primary health care services, including the uptake of health assessment items [6-8]. Health assessments are essential in the early diagnosis and treatment of undetected disease and necessary in the better treatment of existing disease [9]. Research suggests the low uptake of health assessment items in Indigenous and non-Indigenous health services can be attributed to a range of system, patient and provider barriers [9, 10]. In addition, systemic problems such as racism and discrimination; and cultural and financial factors amongst others are all barriers limiting access to health services for Aboriginal and Torres Strait Islander people [6, 7]. With this in mind, introducing enabling processes to assist in improving primary health care access and the uptake of health checks should be considered an important component of community based health promotion initiatives targeting reductions in chronic disease.

1.1 School-Based Health Promotion Initiatives

Schools are widely recognised as important settings for the delivery of health education to young people [8, 9]. Schools have continuous, intensive contact with large numbers of young people, providing the ideal setting to shape the health knowledge, attitudes, self-efficacy and behaviours of young people [10, 11]. Despite this, there is a lack of evaluations of school-based health education programs which target Indigenous students [12], making it difficult to determine which are most appropriate and effective for improving knowledge and modifying the attitudes, self-efficacy and behaviours of Indigenous young people. Of the few evaluations of Indigenous-specific school-based health education programs that have been conducted, most have focused on drugs and alcohol and most have targeted Indigenous young people in rural or remote schools [19].

1.2 Aboriginal and Torres Strait Islander Community Events

Brough, Bond and Hunt (2004), highlight that from an Indigenous perspective, community events are a key strength for Aboriginal and Torres Strait Islander communities; with the ability to strengthen families, communities and neighbourhood networks. Events not only demonstrate solidarity, but also project strength and pride to the wider population [2]. More broadly, research suggests that community events have the potential to increase community engagement in physical activity [11], afford an opportunity for social participation [12] and provide a vehicle to improve the health knowledge of community members [13]. Aboriginal and Torres Strait Islander community events have been the focus of a small number of studies, however these evaluations have generally reported of the impacts of cultural, arts and sporting festivals and events [14-16], or health screening days [17, 18] with less focus on health promoting events which aim to increase awareness of chronic disease and risk factors.

2. The Deadly Choices Initiative

Deadly Choices in an initiative of the Institute for Urban Indigenous Health (IUIH) in South East Queensland and is funded by the Commonwealth Department of Health & Ageing. Deadly Choices is a school and community-based chronic disease prevention and education initiative that encourages Aboriginal and Torres Strait Islander people to make healthy choices, focusing on chronic diseases and their risk factors such as nutrition, physical activity, smoking and harmful substances. For Aboriginal and Torres Strait Islander people, a 'Deadly Choice' is a healthy choice (deadly meaning good or "cool"). Deadly Choices also encourages people to access their local health service and complete a Health Check, to prevent chronic diseases and manage illness to live a healthy and active lifestyle. Deadly Choices initiatives include a school based health education program aimed at Aboriginal and Torres Strait Islander young people; a community group program aimed at adults and Community Days which are designed to promote healthy lifestyle choices in the wider community.

Figure 1. Ambassador Sam Thaiday promoting Deadly Choices

2.1 Deadly Choices School-Based Program

The Deadly Choices seven-week school-based program program covers education in including leadership, chronic disease, physical activity, nutrition, smoking, harmful substances and health services. A brief description of the key factors addressed is outlined in Table 1. Weekly sessions last approximately 90 minutes and involve an ice-breaker activity, an education component and participation in physical activity. Information is presented using PowerPoint, in addition to interactive activities. Following the final session, participants are encouraged to have an Aboriginal and Torres Strait Islander health check (MBS item 715).

Table 1. Description of intervention components

Week	Module	Brief description of key factors addressed
1	Leadership	• The 'Close the gap' initiative • Determining features of good leadership • Identifying leaders in the community
2	Chronic Disease	• Explanation of Chronic Disease • Common types of Chronic Diseases • Chronic Disease risk factors
3	Physical Activity	• Benefits of physical activity • Identifying types of physical activity • Physical activity guidelines
4	Nutrition	• The five food groups and portion sizes • Decreasing sugary drinks • Energy Balance • Importance of breakfast • Healthy meal options
5	Smoking	• Substances in a cigarette • Smoking's impact on the body • Environmental tobacco smoke • Benefits of not smoking
6	Harmful Substances	• Explanation of harmful substances • Drug and alcohol effects on the body • Risks associated with drinking • Support available
7	Health Services	• Health checks • Medicare • Registering for 'Close the gap' services • Local Indigenous health services

The physical activity component of the program primarily focuses on participation, increasing self-efficacy and team work. At some physical activity sessions, participants are exposed to

traditional Indigenous games, which offers an opportunity to experience cultural traditions in sport-related activities; focusing on the cultural assets of these young people [19]. All sessions are facilitated by young Indigenous healthy lifestyle workers who were considered role models in the community. To reward participants for their efforts and encourage program attendance, participants who attend all sessions receive a Deadly Choices shirt.

Figure 2. Participants in the Deadly Choices seven week school based program

2.2 Deadly Choices Community Group Program

The structured Deadly Choices seven week program (as described above) is also run with adult community groups in South-East Queensland. As with the school-based program, community groups receive the program once a week over a 7 week period with education in the key areas of leadership, chronic disease, physical activity, nutrition, smoking, harmful substances and health services. Participants are also encouraged to link in with their local health service for a health check. Program content is adjusted to the assets, needs and abilities of the adult participants to ensure a strengths-based approach.

Figure 3. Participants from the Ipswich 'Deadly Dads' community group program

2.3 Deadly Choices Community Events

Deadly Choices community events are a core component of the Deadly Choices initiative and are designed to build community capacity by increasing Aboriginal and Torres Strait Islander peoples' awareness and knowledge of chronic disease and related risk factors. Community events offer opportunities for participation in physical activities such as Zumba, football and rock-climbing; healthy cooking demonstrations; and are labelled as drug, alcohol and smoke free events.

Figure 4. Young people participating in Zumba at a Deadly Choices community event

In addition, community members have the opportunity to participate in a range of health education activities delivered verbally by Aboriginal and Torres Strait Islander health professionals. The education encourages small yet positive lifestyle changes such as reducing soft-drink consumption and increasing physical activity levels, to larger changes such as smoking cessation, which most likely require further intervention and support. The health information delivered via four health education stations is summarised in Table 2. These Deadly Choices health education activities are also run at other community events throughout South East Queensland such as sporting and National Aboriginal and Islander Day Observance Committee (NAIDOC) events. The community events are run in conjunction with the local Aboriginal and Torres Strait Islander health service, who offer health screening for community members and link people into local health services for comprehensive primary health care follow-up.

Table 2. Deadly Choices community event health education activities

Station	Education key points
Chronic disease	• Definition of a chronic disease • Modifiable and non-modifiable risk factors for chronic disease • Common chronic diseases • Chronic disease information pamphlets provided to all interested participants.
Nutrition	• Demonstration of the amount of sugar in drinks such as juice, soft-drink and sports drinks; and cereals such as nutri-grain, cocopops and cornflakes, using food models and sugar. • Demonstration of healthy meal portion sizes using a 'portion plate'; a dinner plate model used to visualise correct portion sizes for fruit and vegetables, grains and starchy vegetables and meat and alternatives.
Physical activity	• Activity to identify types of physical activities (organised and incidental) • Physical activity guidelines for adults and children • Physical activity pamphlets provided to interested participants
Smoking	• Explanation of the major chemicals in a cigarette • Effects of smoking on the body • Major diseases caused by smoking and the consequences of passive smoking. • Participants able to determine their carbon monoxide levels using a 'smokerlyzer'; a breath carbon monoxide monitor used to determine nicotine dependence levels.

3 The Evaluation

The purpose of this report is to describe the results of a comprehensive impact and outcome evaluation of the Deadly Choices Health Education program, a health promotion program developed by, and for, Aboriginal and Torres Strait Islander people in urban areas.

3.1 Evaluation Aims

The evaluation had the following aims:

1. To describe in detail the base-line knowledge of urban-dwelling Aboriginal and Torres Strait Islander people regarding chronic disease and it's risk factors
2. To explore the impact of 'Deadly Choices' health promotion/education initiatives on a) knowledge, b) attitudes and c) behaviour of urban dwelling Aboriginal and Torres Strait Islander people in the topics covered by the 'Deadly Choices' Program.
3. To explore the reasons for healthy lifestyle choices in the lives of urban Aboriginal and Torres Strait Islander people
4. To explore the impact of the 'Deadly Choices' program on urban Aboriginal and Torres Strait Islander people accessing local Aboriginal and Torres Strait Islander community health services.

4. Evaluation Methodology

A mixed methods approach using a combination of quantitative and qualitative approaches was adopted for this evaluation, which has been advocated by researchers and practitioners in the evaluation of health promotion initiatives for Australian Indigenous people [20].

4.1 Ethics approval

An application to the University of Queensland and Education Queensland Human Research Ethics Committee for the project titled 'Evaluation of a Health Education initiative for urban Aboriginal and Torres Strait Islander people' was approved prior to the commencement of the evaluation. This included information and consent forms for participants, interview protocols and evaluation tools.

4.2 Timeframe

The evaluation timeframe was 12 months, commencing January 1st and concluding December 31st, 2013. This research project was supported by a Lowitja Institute Cooperative research centre small grant which provided funding to employ a Deadly Choices Research assistant for 12 months.

4.3 Evaluation Tools

Given the specific research aims to be addressed and the need for culturally appropriate research tools; it was not possible to use existing or validated instruments. Therefore, the researcher drafted, pilot-tested and revised each of the survey instruments which were used in the evaluation.

4.3.1 School Based Program

Questionnaire

A pre/post questionnaire across four key domains was used to evaluate the effectiveness of the Deadly Choices school-based program on the knowledge, attitudes, self-efficacy and behaviours of participants. The questionnaire was developed by the research assistant with assistance from Deadly Choices staff, and was built upon an existing questionnaire used previously for program evaluation. The four questionnaire domains included:

- **Demographics:** Questions included age, gender, identity, suburb and school.
- **Knowledge:** Questions focused on chronic diseases and associated risk factors, health conditions caused by smoking, types of physical activity, elements of good leadership, the sugar content of soft drinks, and components of a health check.
- **Attitude and self-efficacy:** Questions related to leadership, chronic disease prevention, health promoting behaviours, and health checks.
- **Behaviour**: Questions focused on leadership, physical activity participation, eating habits, smoking habits, use of alcohol, tobacco and other drugs, and engagement with health services.

Interviews

A smaller sample of participants were invited to participate in an in-depth semi-structured interview once they had completed the Deadly Choices program as well as 6 months after the program. An interview protocol was used to maintain consistency of questions asked. As a discussion point, photographs and pictures were used during the interviews, in combination with straightforward interview questions.

4.3.2 Community Groups

Questionnaire

The same questionnaire as mentioned above was used to evaluate the effectiveness of the Deadly Choices community group program on knowledge, attitudes, self-efficacy and behaviours of participants.

4.3.3 Community Events

Questionnaire

To evaluate the health education component of community events, a pre/post survey was developed. The survey consisted of four demographic questions and six knowledge questions. The four demographic variables collected were ethnicity (Aboriginal/Torres Strait Islander/Both/Other), age, gender and postcode. The other questions were multiple-choice and related to knowledge of chronic diseases; chronic disease risk factors; types of physical activities; the sugar content of soft-drink; conditions caused by smoking; and the addictive substance in a cigarette.

Audit Trail

An audit trail was implemented to track the impact of the health screening at community events on participant's engagement with local Aboriginal and Torres Strait Islander Health services following the event. This involved determining the proportion/number of participants who had a health screen at a Deadly Choices event who then followed up at any of three North-Brisbane Indigenous health services for an Indigenous health check (MBS item 715) or other appointment. This data was compared with Deadly Choices community event attendees who did not participate in a health screen.

Interviews

Semi-structured interviews were conducted with participants who attended a Deadly Choices community event to explore the health and socio-cultural impacts of the event. In addition to demographic information, participants were asked questions relating to their participation at the event including perceived benefits of attending; social experiences; learning outcomes; and reasons for attending. An interview protocol was used to maintain consistency of questions asked.

5. Evaluation Findings

Results from the evaluation indicate that the 'Deadly Choices' program is improving the knowledge, attitudes, self-efficacy and behaviours of Aboriginal and Torres Strait Islander people in South East Queensland and increasing the uptake of Aboriginal and Torres Strait Islander health checks (MBS item 715) at Indigenous health services in South-East QLD. The following section will highlight and present specific improvements within the school based program and at community events.

5.1 School Based Program

5.1.1 Demographics

A total of 103 students participated in at least one session of the Deadly Choices program across all groups, from six high schools and education and training facilities in Brisbane, Queensland. There were 65 participants in the intervention group and 14 participants in the control group who completed a questionnaire. The control group participants were from grade eight, compared with the intervention group who ranged from grade seven to 12. As shown in Table 3, the mean age for participants in the intervention group was 14.5, compared with the control group where the mean age was 12.9. For the intervention group, 61.7 % of participants were male and 38.3% were female; for the control group, 35.3% of participants were male and 64.7% were female. The majority of participants were of Indigenous identity.

Table 3. Baseline participant characteristics

	Intervention (n = 65)	Control (n = 16)
Age in years (mean)	14.8	12.9
Gender (%)		
Male	67.7	37.5
Female	32.3	62.5
Identity (%)		
Aboriginal	84.6	87.5
Torres Strait Islander	1.5	6.3
Both	0	6.3
Other	13.8	0

[1] Due to rounding, not all percentages add up to 100%

5.1.2 Questionnaire Results

Knowledge, attitudes and self-efficacy

For the intervention group, the majority of scores relating to knowledge significantly improved between baseline and follow-up. For questions relating to attitudes and self-efficacy, there was a significant increase for all outcome variables post-program for the intervention group. Post-program, differences between the intervention and control group were statistically significant for knowledge questions regarding types of chronic disease (P=<0.001) and chronic disease risk factors (P=0.045) as displayed in Figure 4 and 5. In addition, health conditions caused by smoking (P=0.006) and the sugar content of soft-drink (P=0.009) were statistically significant between groups.

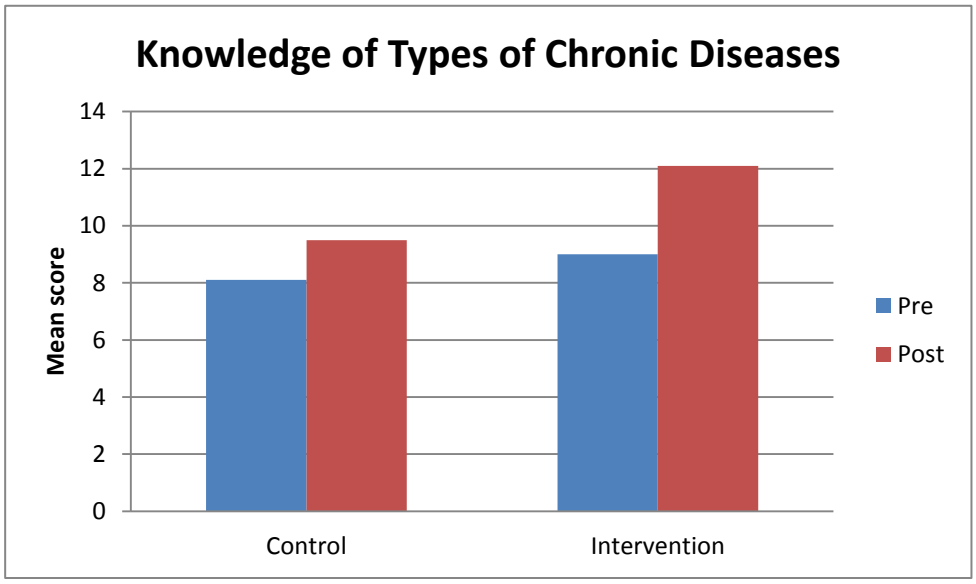

Figure 5. Program impact on knowledge regarding types of chronic diseases

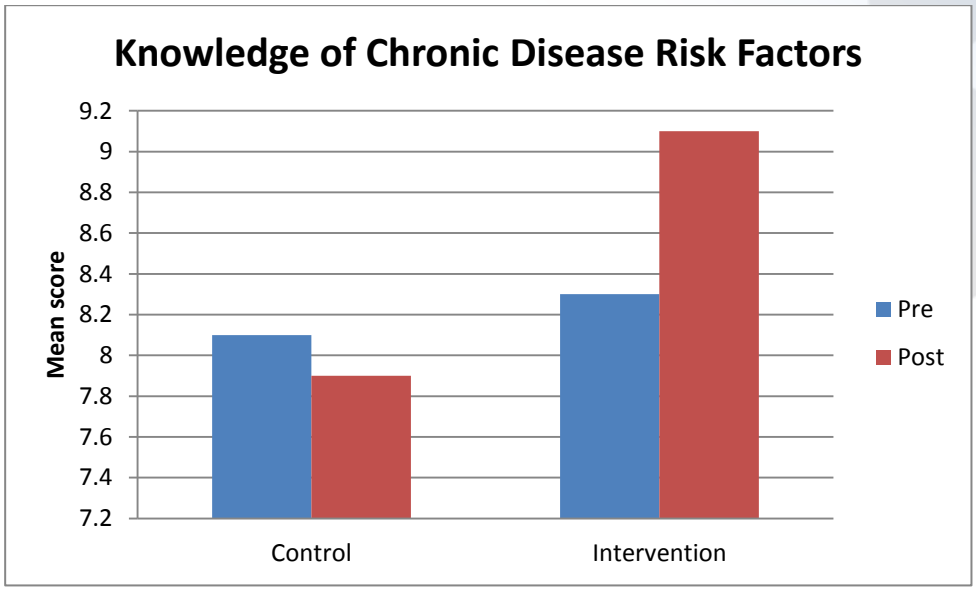

Figure 5. Program impact on knowledge regarding chronic disease risk factors

In addition, there was a significant difference between the post-program scores of the intervention and control group regarding confidence in preventing future chronic disease (P=0.005) and having a health check (P=<0.001), as highlighted in Figure 6 and 7.

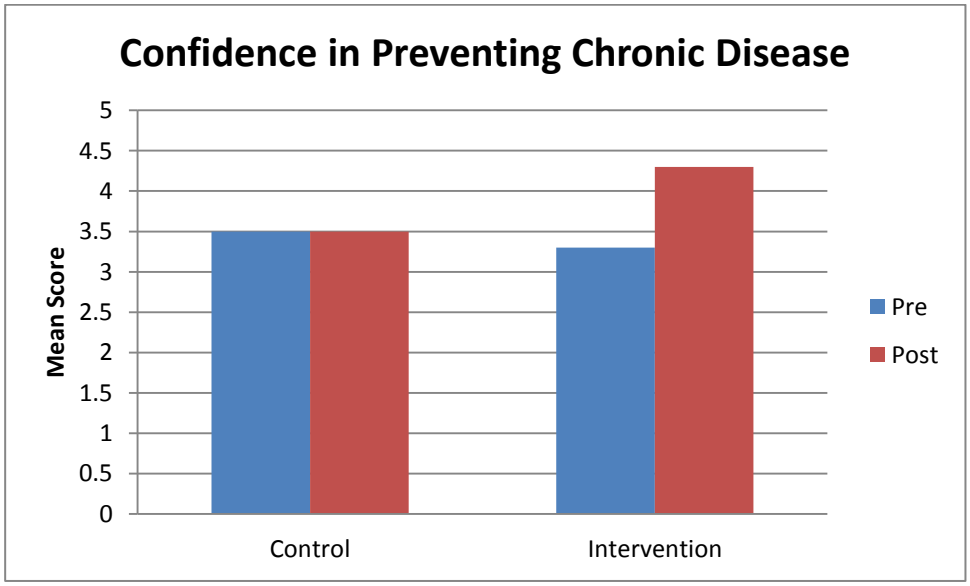

Figure 6. Program impact on confidence regarding chronic disease prevention

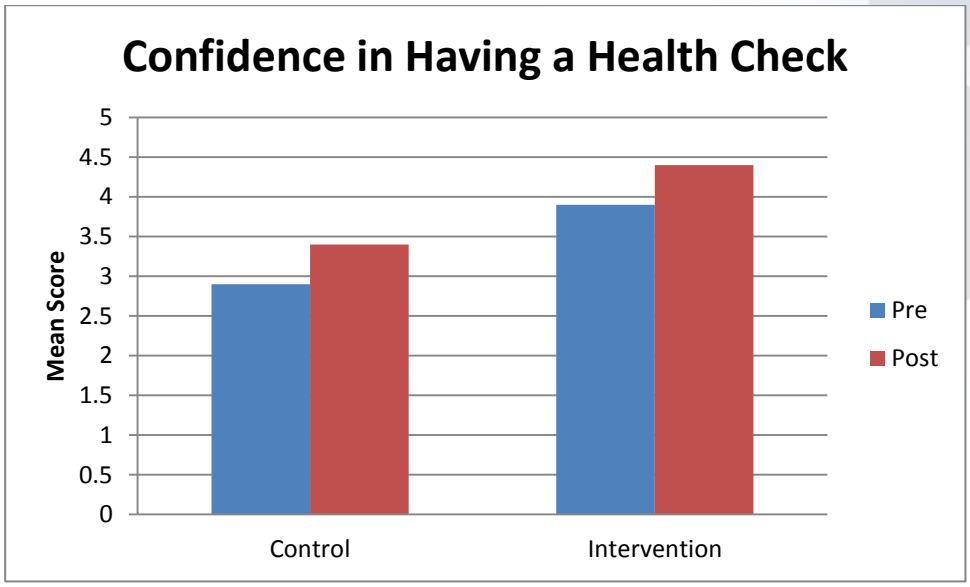

Figure 7. Program impact on confidence regarding health checks

Behaviours

For the intervention group there was a significant increase in breakfast (P=0.002) and physical activity frequency per week (P=<0.001), and fruit (P=0.004) and vegetable (P=<0.001) consumption per day between baseline and follow-up.

As displayed in Figure 8, following the intervention, there was a significant difference between the control and intervention group regarding breakfast frequency (P=0.042). However no significant difference was seen between the intervention and control group post-program, regarding sharing health information with others, physical activity (Figure 9), takeaway and soft-drink frequency, daily fruit and vegetable intake, activity levels at school or on the weekends and active mode of transport to school. However some outcomes were in the hypothesized direction.

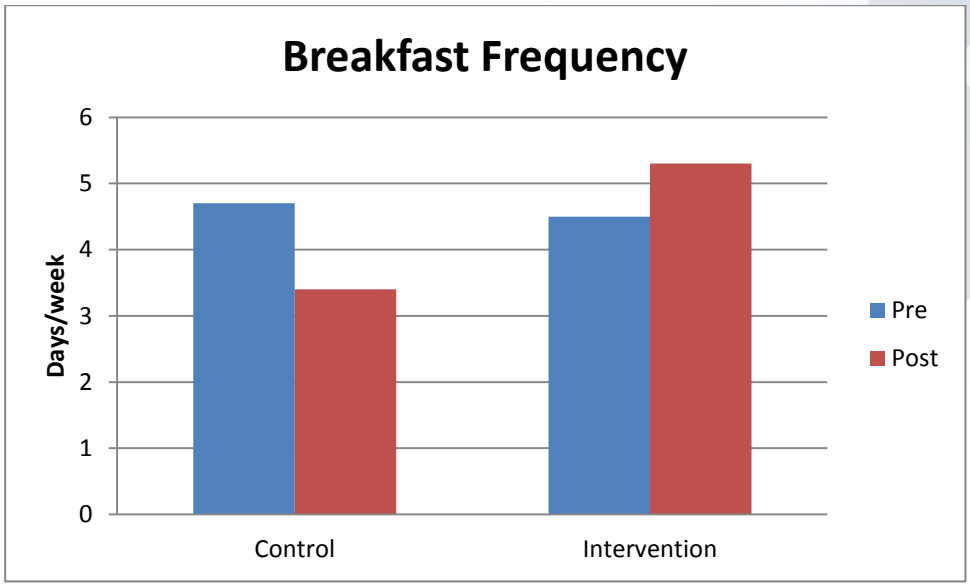

Figure 8. Program impact on frequency of breakfast consumption per week

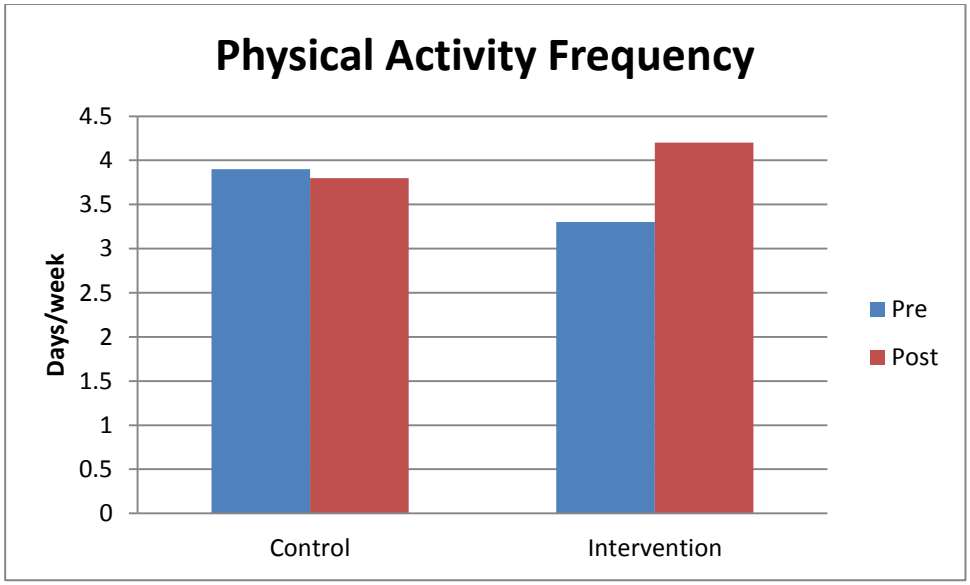

Figure 9. Program impact on frequency of physical activity per week

Results were also obtained regarding smoking status and alcohol, cannabis and sniffing behaviours in the past month. For the control group, all participants indicated they were non-smokers and did not consume alcohol or use harmful substances in the past month, at both stages of evaluation. Within the intervention group, 18.5% of participants smoked cigarettes pre-program, compared with 10.3% post-program (P=0.22); 11.4% used cannabis pre-program, compared with 7.6% post-program (P=0.44); 32.9% consumed alcohol pre-

program, compared with 32.8% post program (p= 0.80); and 1.3% engaged in sniffing pre-program, compared with 3.0% post-program (p= 0.47).

Regarding health checks, 49% of participants from the intervention group reported not having a health check prior to participating in the program; post program 36.7% of these participants had engaged in a health check. In total, 30 participants received a health check as part of the Deadly Choices program.

5.1.3 Interview Results

Individual in-depth interviews were conducted with six boys and four girls aged 13 to 17 years of age. These participants were from five of the secondary schools or education and training centres that had completed the Deadly Choices program. The interviews were held to explore in more depth the impact of the Deadly Choices program in both the short and long term.

The positive quantitative results, as highlighted above, relating to improved health knowledge, attitudes, self-efficacy and behaviours are supported and reinforced by the qualitative data obtained from interviews. Many of these changes were sustained when interviewed four to six months following the program. Participants also improved their confidence following the program to make 'deadly choices' and also in terms of leadership ability. Health perceptions including a range of barriers and facilitators to health were also identified in the interviews.

Improved health knowledge

- *Mostly the eating and foods, and bad choices and stuff like that, and harmful substances, like I didn't know half that stuff until this… I didn't know that smoking and doing drugs and that had that much of an impact, like I thought you could get cancer and that but I didn't know it caused so many diseases and stuff like that.* (Jessica)

- *I mainly thought about the cancer and all that, but now I'm thinking about it all and like how I can prevent it and all that… because like not only smoking can do it, it's like eating healthy and all that can prevent it. (Katie)*

- *Yep, eat your vegetables, play sport, go and have a medical test like what's it called, a health check, sleep, get up have a shower and do the same things the next day. (Joseph)*

Changes in lifestyle behaviours

- *Since Deadly Choices has come, I've cut down on soft-drink, eating breakfast every day, and a lot more physical activity. (John)*

- *I was smoking tobacco a lot of times, and I decided to quit. (Joseph)*

- *Yeah like I never did much exercise before, I'd have like a moment where I want to but it didn't last, but now I'm actually going out and running, like I've thought about going out and running and doing stuff but I actually never have, and now I'm actually getting out and doing it. (Jessica)*

- *I think just mainly the drinking, cause I haven't touched a drink since Deadly Choices started. (Katie)*

Improved confidence

- *Deadly Choices, they've helped out a lot in me being confident. They've helped me express my feelings and my un-healthiness, when I used to be really unhealthy and they've helped me become confident in myself and get my life back on track* (John).

- *It's helped with being a leader and that kind of stuff, it's made me more confident and that, like not shamed (Alan).*

- *Like, I have never really enhanced that I have Aboriginal culture in me, and now that I'm learning about it, it's interesting, and I'm not exactly worried to say that I am (Aboriginal), I feel more confident about it.* (Stephanie)

Empowered to be role models in health

- *I want to be like a good enough leader where I get younger people to look up to me and go 'oh I just want to be just like him', instead of me being a not a good leader, where I just go to KFC every second day or something… and kids will look at you and be like 'oh let's do this and do that'. You know you've got to be that positive leader where you drink water, like if your kids got something wrong with him then like just sit down and talk to him about it, don't let him get that angry that he wants to do something.* (John)

- *… like I know a lot of my friends, do like make bad choices, and I want to be the one to start like change, hoping they'll follow as well.* (Jessica)

- *…my Aboriginal side of the family hasn't been so great in the past, like it's turned out really bad, so I want to make a really big difference in my family… and I want to be*

known, like I want my community to know me for what I do, I want to make a difference… being healthy and confident is two good ways to help. (Stephanie)

The reasons for healthy and unhealthy lifestyle choices

- *… it's hard to make the right choices when your family is constantly making choices that aren't right.* (Katie)

- *Well giving up smoking was one of the hardest things for me, because not just the addition, because all the people coming up to me like saying 'do you want a smoke?' … peer pressure is a big one.* (Jessica)

- *KFC is just down the road from where I live and there is a pie store next to it so yeah… 'cause they are like full of oil and that, and switching to fruits and vegetables and that is a little hard.* (Tom)

Perceptions of health

- *You know swimming and cricket and that, they're important, it's important to be active, but it's important to like just relax like read a book and play on the computer every now and then…so like your body can take it.* (John)

- *Health is about your emotional wellbeing, social, physical, mental.* (Stephanie)

- *It's inside and outside… like what you're physically doing, that's on the outside, and on the inside it's what you're actually thinking. So this guy is stressed on the inside which means he is not going to reflect well on the outside.* (Zac)

5.2 Community Groups

The Deadly Choices seven week program was held with two community groups in the Brisbane areas; a women's group in Logan and a men's group in Ipswich. For various reasons including lack of attendance, the program was discontinued after the third session for the women's group. The men's group attendance was inconsistent and as a result there were only a small number of pre and post questionnaires collected. Therefore these results were not analysed.

5.3 Community Events

Data was collected at three Deadly Choices community events held in Brisbane. Additional survey data was also collected from four National Aboriginal and Islander Day Observance Committee (NAIDOC) community events in the Brisbane and Gold Coast region where Deadly Choices health education activities were run. All events were held from May to September in 2013.

There were 479 community members who participated in the health education component of the community events; they completed a pre and post questionnaire directly before and after their participation. As participants under the age of 10 did not complete a questionnaire, this number is not an indication of the total number of participants who received education. Due to the high number of children at these events, it is estimated approximately 800 community members received health education.

5.3.1 Demographics

The mean age of participants who completed a questionnaire was 32.9 and 32.6% were male and 67.4% were female. The majority of respondents identified as Aboriginal (65.1%); 24.8% as other; 7.8% as both Aboriginal and Torres Strait Islander; and 2.3% of participants identified as Torres Strait Islander. Due to the location of community events, the majority of participants were from Brisbane.

5.3.2 Questionnaire Results

All knowledge scores significantly improved between baseline and follow-up across all community events. As detailed in Table 4, there was significantly improved knowledge regarding types of chronic disease (P=<0.001); chronic disease risk factors (P=<0.001); types of physical activities (P=<0.001); sugar in soft-drink (P=<0.001); conditions from smoking (P=<0.001); and the addictive substance in a cigarette (P=0.002). These results are also displayed in Figures 10 and 11.

Table 4. Community event survey knowledge scores

Knowledge Question	Pre	Post	Difference
Types of Chronic Diseases, mean, SD	10.2 (2.3)	11.8 (2.1)	1.6 (1.4 to 1.8); P=<0.001*
Risk Factors, mean, SD	9.3 (2.4)	9.9 (2.1)	0.6 (0.4 to 0.8); P=<0.001*
Types of Physical Activities, mean, SD	11.6 (3.1)	12.6 (2.5)	1.0 (0.8 to 1.3); P=<0.001*
Sugar in soft-drink, %	40.5	95.4	250 (44.5 to 9913.5); P=<0.001*
Conditions from smoking, mean, SD	7.9 (1.8)	8.7 (1.9)	0.8 (0.6 to 1.0); P=<0.001*
Addictive substance in a cigarette, %	71.0	78.5	1.8 (1.2 to 2.6); P=0.002*

*Significant at 0.01

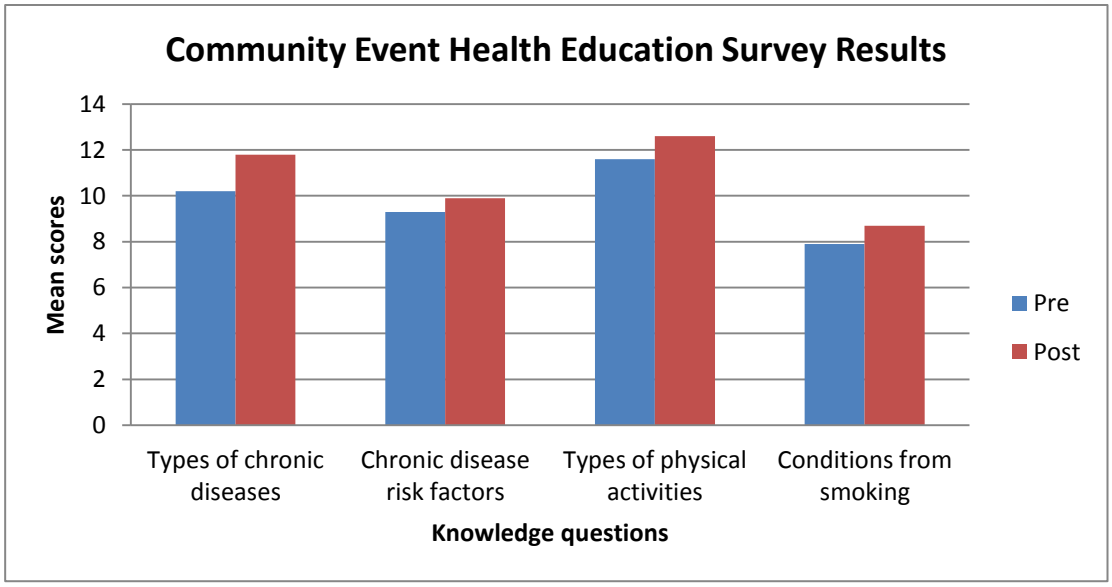

Figure 10. Community Event health education pre/post results regarding knowledge of chronic disease and risk factors

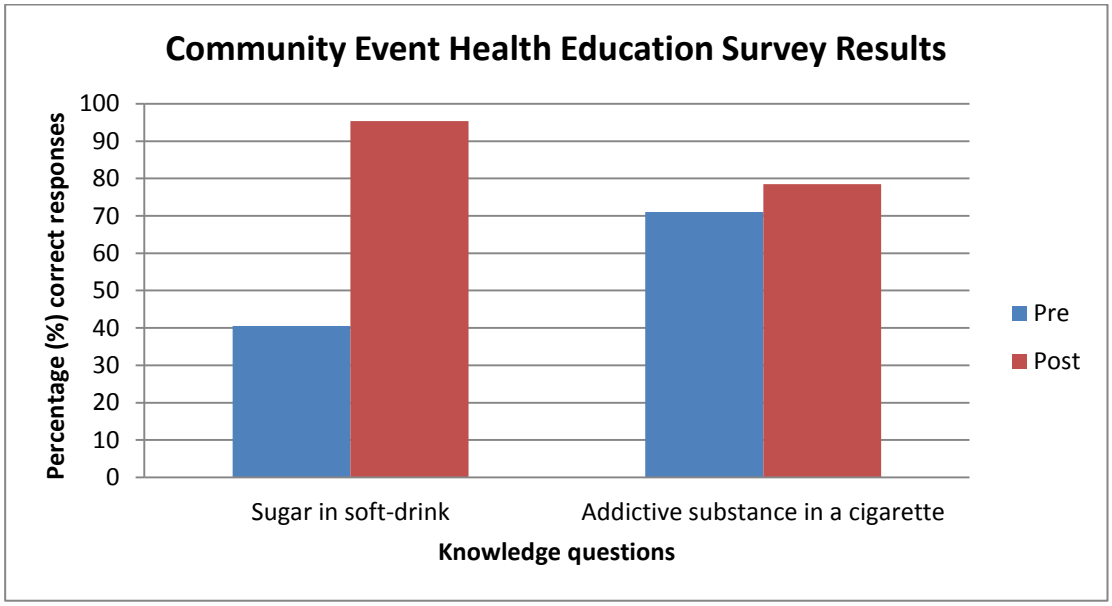

Figure 11. Community Event health education pre/post results regarding nutrition and smoking knowledge

5.3.3 Audit Trail Results

Data from two community days was collected to see what proportion of individuals went on to have a health check (MBS item 715) or other appointment within two months of the community event, at any of three Brisbane north-side Aboriginal medical services. Data was collected for individuals over the age of 10. In total, there were 106 participants who had a health screen across two of the events.

Fifty-five consecutive individuals, who had a health screen at the Deception Bay community event, were matched on age and sex with community day attendees who did not have a health screen at the same event. Attendees screened were mostly female (64%) and had a median age of 28 years (range = 10 to 76).

For those screened at the Deception Bay event:

- 22 individuals were eligible to receive a full health check following the event.
- of these eligible individuals, six (27.3%) received a health check (MBS item 715) within two months of the community event.
- of those screened, 17 (30.9%) went back to the clinic for an appointment (other than a health check) within two months of the event.

In the non-health screen comparison group:

- three later received health checks within two months of the community event.
- nine went back to the clinic for an appointment (other than a health check) within two months of the event. This was 16.4% of participants in this group.

While we do not know how many non-screened individuals were eligible to receive health checks, these results suggest the individuals who were screened at the community day were approximately twice as likely to go on to receive a full health check or visit the clinic for an alternative reason.

To confirm these results, data for 51 attendees at the Strathpine community day who received health screening were extracted. Of these individuals:

- 21 individuals were eligible to receive a full health check following the event
- five (23.8%) went back to health services for a health check within two months.

- Of those screened, 13 (25.5%) went back to the clinic for an appointment (other than a health check) within two months of the event.

This suggests the results from the first community day may be robust. Audit trail results are displayed in Figure 12 and 13.

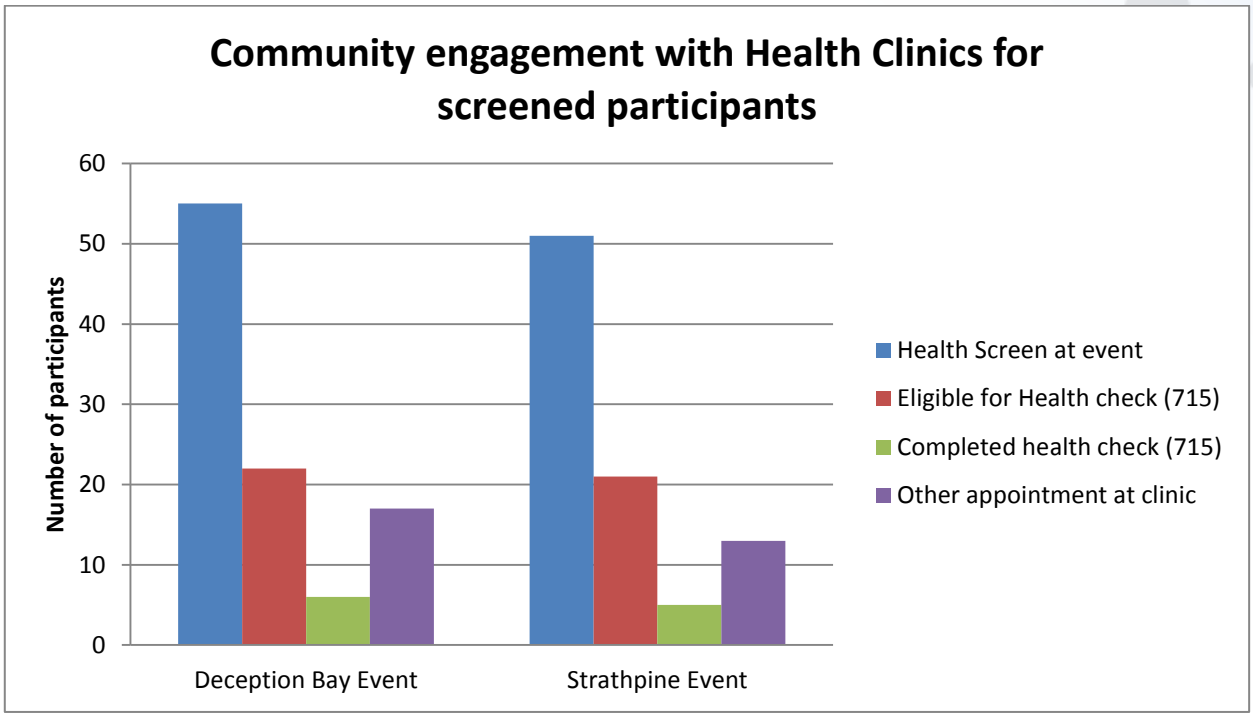

Figure 12. Health Check eligibility of participants and engagement with local health clinics for screened participants, within two months of the event

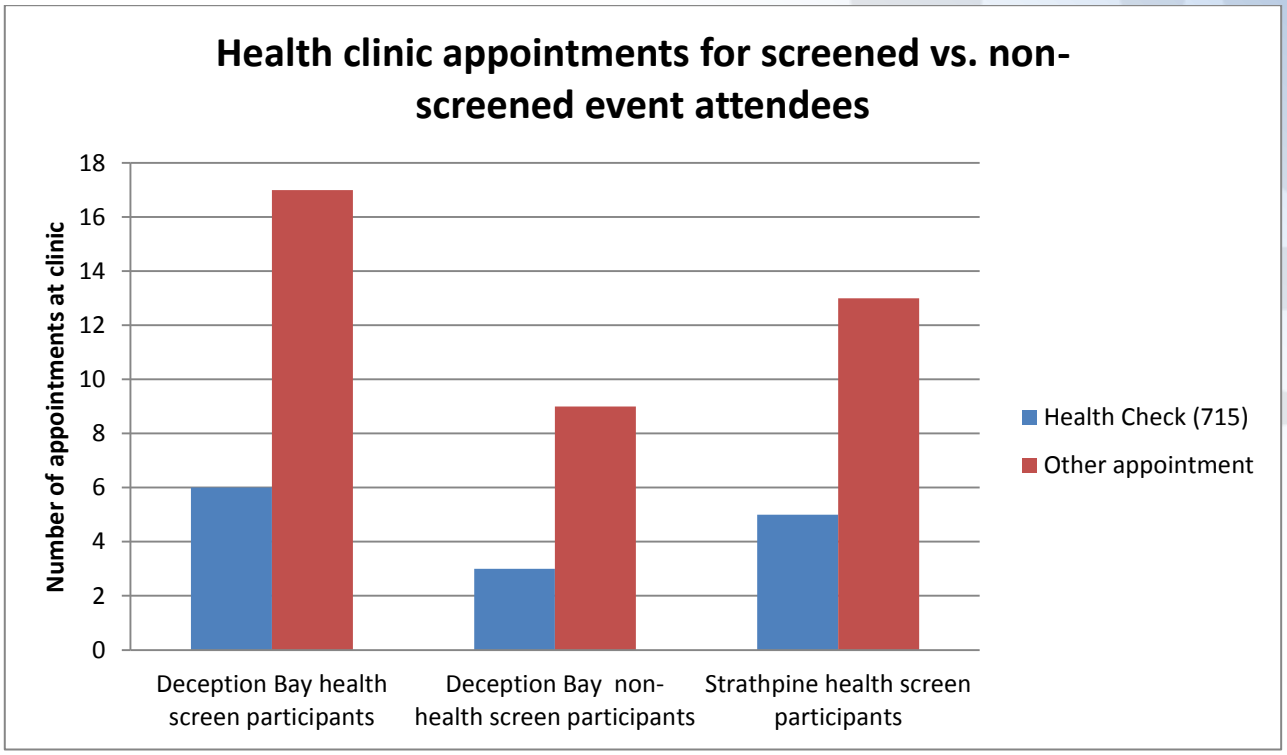

Figure 13. Engagement with local health clinics for screened vs. non-screened event attendees within two months of the event

5.3.4 Interview Results

Seven semi-structured interviews were conducted with participants who attended the Zillmere Deadly Choices community event, ranging from 15 to 30 minutes. Three males and four females participated in the interviews. Participants ranged in age from 15 to 69, with a median age of 43. Five participants identified as Aboriginal; one participant identified as Aboriginal and Torres Strait Islander; and one participant identified as other.

The participants in this study revealed a range of health and social benefits associated with their participation in the event as outlined below.

Increased social connections

- *I thought it was really positive. It was great catching up with so many people there, so it was a nice big social occasion for me… it was great to see so many people of all ages, so it didn't just pick up people with young families, it picked up middle age people, you picked up the elders in the area, that was really exciting.* (Tanya)

- *It was connecting, people connecting. There was a nice gathering other than a funeral you know, and meeting people again instead of at a sad moment you know, so that was one of the beauties of it.* (Steve)

- *Well I met more Elders… cause you never know if someone up here wants to move down to North Brisbane, and then I'll know, 'look here's the Elders, here's the community for the North side there', you know? So being more aware of what's in that community up there if I need to advise people. So networking, yeah networking.* (Janice)

Increased participation in health promoting activities

- *In the old days there was the football carnival and that sort of stuff, and it was one direct thing, where this is actually looking at different aspects in relation to health and physical activity. Like boomerang throwing was a great sort of activity with the kids, there was the different sports, AFL, there was rugby league, rock climbing, and that sort of stuff and it kind of opened up the young people's eyes to other physical activities, and Zumba, I thought was absolutely brilliant.* (Jacob)

- *They were being active all day, so it was good just to get them active, sort of day, and it just teaches them not to be lazy couch potatoes I guess! (Daniel)*

- *Yeah I felt really good after it, and hopefully we'll get to some more Zumba… you know what I mean? That's something in the long term, it gives you some incentive to go and find some more exercise or look for something in the community*. (Janice)

Improved health literacy for sustained behaviour change

- *…I can pass that information on because I don't have a lot of soft-drink or a lot of juice, but it is good information to use when I'm working in the schools, yeah just let them know, 'um there's a lot of sugar in that'.* (Janice)

- *Yep well just going through the education and stuff like that yeah. I had a list of resources there and sort of from there I developed my own plan. But it was just basically from the resources that I was given and researching further on them myself, so yeah the education side of it was brilliant, and it sort of gave me that motivation (to quit smoking).* (Jacob)

- *It just reinforces me not to stop smoking, stay off the cigarettes.* (Steve)

Increased awareness of Aboriginal and Torres Strait Islander health services

- *Yeah they were telling me about dental services, because when I was younger I used to eat a lot of lollies. And they were talking about dental services. So yeah I've worked it out with the dental people, so they helped me out with that too.* (Daniel)

- *Yeah, so like not too scared when I'm waiting like not too sure about what they are going to do. Now I know what they do, and what it's for.* (Kayla)

- *Benefits for the community? People know where you can go and do your health check-ups…if you happen to go to Strathpine or go to D-Bay or Caboolture; you know that there is other health centres that you can go to as well.* (Janice)

Early detection of health issues

- *… just that general screening when you go in, so blood pressure and sugar and from that, I think my little niece got her hearing tested, yes I think they have been following that through with something else. So you find those things out as well, so overall everyone benefits from it I think.* (Janice)

- *Just to make sure there is nothing wrong that you don't know of or stuff like that.* (Kayla)

6. Conclusion

The findings show that the Deadly Choices initiative has been extremely successful in improving the knowledge, attitudes, self-efficacy and a number of behaviours of Aboriginal and Torres Strait Islander people in South East Queensland. In line with program objectives, the results suggest the Deadly Choices initiative has empowered participants to be positive role models in reshaping health, lifestyle and physical activity choices within the community. In addition, by collaborating with local health services the Deadly Choices initiative has demonstrated an innovative approach to increasing community engagement with local health services and as a direct result of the initiative, a large number of Aboriginal and Torres Strait Islander health checks (MBS item 715) have been facilitated. In addition, there is an increased awareness regarding the availability of services at local Aboriginal and Torres Strait Islander health services.

6.1 School-Based Program

The quantitative and qualitative findings of this evaluation show that the Deadly Choices seven week program was successful in improving knowledge, attitudes and self-efficacy and behaviours regarding leadership, chronic disease and risk factors. In addition, participants felt empowered to be role models and agents of change to improve the health status of friends, family and the wider community.

Results indicate that there is scope for improving a number of health behaviours for the young people who completed the seven week program, particularly in the key areas of physical activity to meet the current national guidelines of one hour per day, and reducing consumption of noncore food and drink, such as soft-drink and take-away foods. In addition, results indicate that post-program, 32.8% of participants in the intervention group had consumed alcohol in the past month indicating scope for improvement.

When interpreting these results regarding health behaviours, it is important to consider the various barriers that impact on the health behaviours of Indigenous young people at school and home such as family, financial pressures, racism and other personal factors as reported in this evaluation and elsewhere [14, 25, 26]. As outlined, these young people had a holistic view of health; encompassing both physical and mental wellness. It is important to consider the health perspectives of these young people when planning for future programs.

Whilst health check results were very encouraging, there is still scope to engage more participants in health checks at future programs. During the study, health check numbers in the school based program were limited due to difficulties in gaining consent from guardians, arranging health vans at schools, student absenteeism and the availability of clinic staff. In addition, it was noted the participant dropout rate was higher for older students, which could be the result of a diverse range of factors impacting on school attendance for Indigenous students more generally [21] and therefore assumptions relating to program attendance cannot be made.

6.2 Community Group Program

The lack of attendance at the seven-week community group program for adult participants, was a result of various factors relating to family, work and personal factors including motivation. Future community group programs need to account for these factors and incorporate strategies to engage more participants.

6.3 Community Events

The qualitative and quantitative findings of this evaluation suggest Deadly Choices community events provide an innovative approach to health promotion for Aboriginal and Torres Strait Islander people, with various health and social benefits. Findings revealed that this community event offered a forum for community members to interact, connect and strengthen networks. In addition, the event was an opportunity to indirectly increase the community's awareness of the benefits of health and physical activity; through the broad range of activities available, healthy food provided, and the promotion of a drug, alcohol and smoke free event, which was further relayed by sporting ambassadors at the event.

Deadly Choices health education activities at community events enabled Aboriginal and Torres Strait Islander community members to significantly increase their short-term knowledge regarding chronic diseases and associated risk factors including nutrition, smoking and physical activity. This is of importance as studies suggest that there is a correlation between improved health literacy and changes in behaviours such as smoking, nutrition, alcohol, physical activity and weight [22]. This evidence is supported by the qualitative data obtained in this evaluation which indicated some participants changed their

behaviours regarding smoking and nutrition following the event. This evaluation also provides useful information regarding the base-line knowledge of chronic disease and risk factors for urban Aboriginal and Torres Strait Islander people, which is currently lacking.

Results from this evaluation also indicate that health screening at Deadly Choices community events is an effective strategy to increase community engagement with local Aboriginal and Torres Strait Islander health services, including the uptake of health checks. This is evidenced by results indicating that health screen participants were approximately twice as likely to go on to receive a full health check or visit the clinic for an alternative reason, when compared with the non-health screen participants. Results also show that less than half of the health screen participants were eligible for a health check (715), suggesting that many of the community event attendees are already engaged with local health services. However the results also show there is scope to engage more community members at events in health screens, which is important given that community members are more likely to go back to health services if they have a health screen at the event.

7. Recommendations

The results from this evaluation will inform improvements and enhancements to the delivery and ongoing evaluation of the Deadly Choices program.

Recommendation 1:

For the school-based program, it is recommended that health checks are offered prior to program conclusion when students and school staff are still engaged in the program to help increase health check numbers. In addition, consent forms for health assessments should be handed out and collected from students prior to program commencement to ensure prompt return. It may also be useful to develop some reasonable targets for health checks. For example aiming for at least 75% of students to have health checks at each school could be an appropriate target to be measured against.

Recommendation 2:

It is recommended that content for the harmful substances module be adjusted to place less emphasis on pharmacological effects of harmful substances and more emphasis on real-life situations which students can better relate to.

Recommendation 3:

At future community events, it is recommended an alcohol education station be incorporated into health education activities to provide further community education regarding the effects of alcohol and complement/reinforce the ‘drug, alcohol and smoke free’ message. Linking in with the IUIH drug and alcohol team for support regarding resources and to build staff capacity in this area, could also improve the strength of education provided to community members.

Recommendation 4:

Given the participants holistic view of health encompassing both physical and mental wellbeing and the high rates of mental health conditions in the Aboriginal and Torres Strait Islander population, it is recommended that a mental health component is incorporated into the 7-week program (within the chronic disease session) to provide a more comprehensive approach.

Recommendation 5:

At future community events, more emphasis should be placed on engaging community members in a health screen to ultimately improve community engagement with health services. This could involve entry into a competition for having a health screen, more announcements over the PR system and more staff to conduct health screens.

Recommendation 6:

Given the lack of attendance for community group programs, strategies to engage participants in the program should be incorporated such as interactive activities, physical activity participation (based on the abilities of participants) or a healthy morning tea. If required, program material and activities should be adapted to the needs, abilities and health literacy of participants in the group.

Recommendation 7:

Given the positive results from this evaluation, it is recommended that the Deadly Choices initiative is extended to other urban, regional and rural areas to health services with appropriate staffing and resource capacity.

Recommendation 8:

It is recommended that future Deadly Choices health education initiatives, including the seven week program and community events continue to be evaluated. This evaluation has provided the Deadly Choices team with evaluation tools for continued program evaluation.

The questionnaire for the seven week program should be adjusted to be more concise yet adequate for routine program evaluation by Deadly Choices staff. In addition, it is recommended that an Excel spreadsheet be created and regularly updated with information regarding program attendance, consent forms received from participants and number of health checks conducted for each program so this can be regularly evaluated and reflected upon. An evaluation template should also be completed by facilitators at the conclusion of each program to ensure routine evaluation.

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