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REVIEW ARTICLE

Evaluating Australian Indigenous community health promotion initiatives: a selective review

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ABSTRACT

Effective health promotion interventions are critical to addressing the health needs of Indigenous people. We reviewed published and unpublished evaluation reports between 2000 and 2005 to identify practice issues pertinent to evaluators of Aboriginal and Torres Strait Islander health promotion initiatives. While the review of the literature was not systematic it was sufficiently comprehensive to provide a snapshot of evaluation practice currently in place within the Australian context. We found that published evaluation literature infrequently referred to the utilisation of guidelines for ethical research with Aboriginal and Torres Strait Islander peoples. The implications of this are that the importance and relevance of the guidelines for evaluative research are not being widely promoted or disseminated to evaluation practitioners and the role of the guidelines for improving evaluation practice remain unclear. While many innovative health promotion programs appear to have been highly regarded and well received by communities, the evaluation studies were not always able to report conclusively on the impact and health outcomes of these interventions or programs. This was due mainly to limitations in evaluation design that in some cases were insufficiently robust to measure the complex and multifaceted interventions described. To enhance rigour, evaluators of community health promotion initiatives could utilise mixed method approaches overtly informed by appropriate ethical guidelines, together with a broader range of qualitative methods aided by critical appraisal tools to assist in the design of evaluation studies.

Key words: evaluation, health promotion, Indigenous, ethical guidelines, evaluation design.

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Introduction

Understanding what works in improving Indigenous health in rural and remote settings is a high priority for individuals, communities and governments. Health promotion initiatives are one avenue of pursuing health improvement, and evaluative research is an important mechanism for determining the effectiveness and impact of these activities.

Many evaluations of Indigenous health promotion initiatives occurring in remote or rural Australia are not published. As a result positive outcomes and methodological developments are not widely disseminated and used in other regions and communities. The objectives of this brief review were to examine the methodological approaches utilised in evaluations of Indigenous health promotion initiatives in the Australian context between 2000 and 2005, and to identify the use of key ethical guidelines for evaluation practice. We hoped that this would provide a snapshot of current evaluation practice in the Australian context and offer suggestions for ongoing improvements in this area.

Ethical guidelines for research with Aboriginal and Torres Strait Islander people have been available in Australia for a considerable time. The need for these stems from the fact that Indigenous Australians have been widely researched by non-Indigenous researchers and, in many instances, the research has resulted in the appropriation of Indigenous knowledge, or has used methodologies that were culturally insensitive or inappropriate[1]. The guidelines also offer a means of improving evaluation practice or quality, particularly for non-Indigenous researchers. These guidelines can also have implications for the design of evaluation studies, many of which are restricted by time and resources. This review provides an overview of recent approaches to evaluation that have been utilised in the area of Aboriginal and Torres Strait Islander health promotion, and discusses the importance of applying ethical guidelines in evaluation practice.

Background

Health promotion practice emerged in the context of the modern primary healthcare movement, beginning with the *Declaration of Alma-Ata* in 1978. The declaration recognised health as a fundamental human right, and the need to move to a more population-focused healthcare system[2]. In 1986, WHO made a second declaration, the *Ottawa Charter for Health Promotion*[3]. This charter has since provided an international framework for health promotion practice built on the principles of primary health care, as developed at Alma-Ata.

The Ottawa Charter describes health promotion as the process of enabling people to increase control over the determinants of health and thereby improve their health. To reach a state of complete physical, mental and social wellbeing, an individual or group must be able to identify and realise aspirations, to satisfy needs and to change or cope with the environment[3]. Five categories of health promotion interventions are frequently described in the literature[4]:

1. Screening for individual risk factor assessment and immunization.
2. Social marketing and health information provision.
3. Health education and skill development.
4. Community action (for social and environmental change).
5. Creating settings and supportive environments.

While this description of health promotion and its interventions fits many Indigenous health promotion initiatives, advocates of Indigenous health argue that efforts to improve Indigenous health require Indigenous models of health promotion that are culturally appropriate, community controlled, self-determining and based on the goals of Indigenous communities[5-7]. Moreover, health promotion must adopt a model of health improvement that recognises the strengths, assets and capacities of Indigenous people[8].

Health promotion for Indigenous people must take into account culture, diversity within the populations; socio-economic circumstances; languages and dialects; geographic location and the consequences of colonisation. Relationships within the community (particularly those with Elders) and spiritual connections to the land and ancestors need to be considered in the interpretation of health issues[9].

Method

A selective review of the literature over a five-year period was undertaken. It examined the broad range of approaches to the evaluation of Aboriginal and Torres Strait Islander health promotion initiatives and the utilisation of ethical guidelines for research, as reported in literature. Two search strategies were used. The first entailed identifying available ethical guidelines, and the second required a search for Aboriginal and Torres Strait Islander evaluation studies, reports or publications.

The methodology for the review involved searching a range of databases, online sources and journals to locate published and unpublished literature, including PubMed, MEDLINE, Google Scholar, Health Source: Nursing and Academic, Health Reference Centre, Aboriginal and Torres Strait Islander Health Bibliography, Australian Indigenous Health Bulletin, the Medical Journal of Australia, Indigenous Australia, Aboriginal and Islander Health Worker Journal, and the Health Promotion Journal of Australia. Search terms included: evaluation, health promotion, Aboriginal, health, public health, ethical, and guidelines. As many Indigenous health projects are not published, a number of non-published documents, such as evaluation reports, were also collected through conference proceedings and internet searching.

Publications were included in the review if they reported on Aboriginal and Torres Islander health promotion programs or interventions that:

- published between 2000 and 2005
- had sufficient discussion of evaluation methods and programs outcomes
- used any of the following strategies: screening, social marketing, health education and skill development, community action, creating supportive environments.

Papers excluded from the review were those reporting on clinical trials, service, economic and policy evaluations, illness management program evaluations, commentaries on evaluations and publications that contained insufficient details about evaluation methods.

Ten documents were identified that provided details of ethical guidelines for the conduct of research with Aboriginal and Torres Strait Islander communities. Five of these were selected as key documents for content analysis with a focus on the common principles identified for ethical research practice.

One hundred and five abstracts were examined for inclusion in the review and 21 were selected for inclusion by a single reviewer. Each paper was read for inclusion against the criteria, and data were extracted about: the description of the program or initiative, evaluation methods, outcomes reported, acknowledgement of ethical guidelines or ethics committee review and collaborations and partnerships in Aboriginal and Torres Strait Islander evaluations.

Results

A number of important guidelines for ethical conduct of research were identified that are of specific relevance to evaluation practitioners. However an examination of the selected evaluation literature found relatively few references to the utilisation of these guidelines. The majority of evaluation studies were only able to report on short- to medium-term impacts of health promotion interventions. Difficulties in reporting longer-term health outcomes were effected by time and resources and by the selection of evaluation designs used to measure change. The

methodologies used were often insufficiently robust and, as a result, many excellent initiatives were only partially able to demonstrate positive outcomes through a rigorous evaluation of the intervention.

Utilisation of guidelines for research and evaluation practice

In 1989 the National Aboriginal Health Strategy in Australia endorsed a set of principles for Indigenous research and evaluation. These principles included requirements for[10]:

- Indigenous involvement and control of research
- community consultation and endorsement
- the use of holistic understandings of health
- project-linked action research
- sensitivity to the social and cultural context.

Later publications affirmed and expanded upon these core principles, resulting in comprehensive guidelines for research and evaluation involving Indigenous people and their communities. The most recent and notable of these guidelines for Australia include:

- Australian Institute for Aboriginal and Torres Strait Islander Studies (AIATSIS) *Guidelines for Ethical Research in Indigenous Studies* (2000)[11]
- National Public Health Partnership, *Guidelines for the development, implementation and evaluation of national public health strategies for Aboriginal and Torres Strait Islander peoples* (2002)[12]
- *The NHMRC Road Map: A Strategic Framework for Improving Aboriginal and Torres Strait Islander Health through Research* (2002)[7]
- NSW Health, *Principles for Better Practice Aboriginal Health Promotion* (2002)[13]
- National Health and Medical Research Council, *Guidelines for Ethical Conduct in Aboriginal and Torres Strait Islander Health Research* (2003)[1]
- Australian Government, *Keeping Research on Track: a guide for Aboriginal and Torres Strait Islander peoples about health research ethics* (2005)[14].

The common feature of these documents is a set of principles founded on respect for Indigenous people's inherent right to self-determination and maintenance of culture and heritage. Table 1 summarises the broad principles for ethical research showing the emergence of relatively common principles for the conduct of ethical research over time.

These guidelines provide a rigorous and ethical framework within which evaluative research should be conducted but the responsibility for maintaining ethical standards cannot depend solely on rules or guidelines, but rests with researchers and the people with whom they engage[1].

The NHMRC guidelines[1] reiterate the continued concerns of Aboriginal and Torres Strait Islander peoples about poor consultation, lack of communication and infringements of deeply held values arising from cross-cultural insensitivity. Such concerns ought to be at the forefront of those conducting evaluations and in this respect the guidelines offer specific challenges for non-Indigenous evaluators who are engaged as external consultants.

The AIATSIS guidelines[11] similarly direct evaluators, as a sub-group of researchers, to engage in high levels of consultation and negotiation with Indigenous communities and ensure that Aboriginal and Torres Strait Islander people maintain input and control of the evaluation process. Evaluators need to respect the cultural property rights of Indigenous peoples in relation to knowledge, ideas, cultural expression and cultural materials. Further to this, there must be a clear benefit to Indigenous peoples at a local level and, more generally, from the evaluation overall. Each of these requirements demands collaboration and partnership, commitment to adequate time by all parties and culturally sensitive practice on the part of the evaluator, regardless of the methods to be employed.

Table 1: Guidelines for ethical research and evaluation with Aboriginal and Torres Strait Islander Communities[1,11,12,14]

AIASTIS (2000) [11]	NPHP (2002) [12]	NHMRC (2003) [1]	KEEPING ON TRACK (2005) [14]
1. Consultation, negotiation and free and informed consent are the foundations for research with or about Indigenous peoples.	1. Evaluation plans should be developed at the same time as program plans.	1. Spirit and integrity: recognition of the continuity between the past, current and future generations and maintaining the coherence of Indigenous values and culture.	1. Establishing, building and maintaining relationships.
2. The responsibility for consultation and negotiation is ongoing.	2. Protocols for evaluation should be developed in consultative and community driven manner with Indigenous organisations and community.	2. Reciprocity: practice inclusion and ensure equitable benefits to communities or individuals.	2.Conceptualisation - thinking and planning the research including consideration of management, research focus, participation and skill development.
3. Consultation and negotiation should achieve mutual understanding about the proposed research.	3. Mechanisms for community feedback must be established.	3. Respect: affirm the right of people to have different norms, values and aspirations and recognise the contribution of others to research.	3. Development and approval - gaining community support, finalising the research agreement, jointly developing ethics approval.
4. Indigenous knowledge systems and processes must be respected.	4. Evaluation should focus on performance and inform action for continuous improvement.	4. Equality: recognise existing collective wisdom and knowledge and treat all partners as equal not withstanding that they may be different.	4. Data collection and management with consent, confidentiality and regular community feedback.
5. There must be recognition of the diversity and uniqueness of people as well as of individuals.	5. Performance data should be fed back to relevant community groups.	5. Survival and protection: engage with communities collectively, not just with individuals. Respect social cohesion and cultural distinctiveness.	5. Analysis - working out what the data means together.
6. Indigenous researchers, individuals and communities should be involved in research as collaborators.	6. Adequate time should be allowed for evaluation.	6. Responsibility: do no harm and establish accountability to participating communities.	6. Putting the information together - with community input.
7. The intellectual and cultural property rights of Indigenous peoples must be respected and preserved.	7. A set of criteria should be developed for the selection of meaningful indicators for change.		7. Dissemination - sharing the findings and results.
8. The use of, and access to, research results should be agreed.	8. Performance indicators should include quantitative measures of equity of access as well as qualitative indicators on cultural security, capacity building, appropriateness, continuity, acceptability and responsiveness of services to community needs.		8. Learning from our experience - knowledge translation.

Table 1 (continued)

AIASTIS (2000) [11]	NPHP (2002) [12]	NHMRC (2003) [1]	KEEPING ON TRACK (2005) [14]
9. The negotiation of outcomes should include results specific to the needs of the researched community.	9. Data collection and evaluation requirements should be rigorous.		
10. Negotiation should result in a formal agreement for the conduct of a research project, based on good faith and free and informed consent.	10. The evaluation and reporting requirements at a project level should be consistent with the scale of resources being applied.		

AIASTIS, Australian Institute of Aboriginal and Torres Strait Islander Studies; NHMRC, National Health and Medical Research Council; NPHP, National Public Health Partnership.

Finally, the most recent guide *Keeping on Track* (2005)[14] draws on the previous documents to assist Aboriginal people and communities to ensure that any research undertaken respects Aboriginal values, is relevant to needs, aspirations and priorities, and develops long-term ethical relationships.

The types of principles identified in Table 1 should not only influence the processes used by evaluators, but also the methods, the timeframes and the resources within which research or evaluation is conducted. From the literature reviewed for this paper it is difficult to ascertain how extensively these guidelines have been adopted for evaluation research. Only seven of 21 publications reviewed acknowledged that the research had received ethical approval and only two reported the use of NRMRC ethical guidelines for the conduct of the evaluation study. This does not mean that the guidelines were not used or that ethics clearance was not gained prior to the study, rather that the authors did not make such an acknowledgement in the publication.

The implications of not reporting on the utilisation of these guidelines, even if they have been used in practice, are manifold. Most notable is the fact that their importance may be undermined at several levels. For example, other researchers and evaluators may perceive the work as deficient, including journal reviewers who may not give credence to the findings if they are not located explicitly within an ethical framework. Of greater significance is a lack of information about how the methods employed may not be wholly in keeping with the core values enshrined in these guidelines. In those papers that did acknowledge the use of ethical guidelines or of having submitted the evaluation protocol to ethics committee review, there was no discussion of how the evaluation study design and process was shaped or influenced by the guidelines. In research and evaluation of Aboriginal and Torres Strait Islander health initiatives this would appear to be indicated.

In the field of health promotion more broadly, most who engage in evaluation would recognise their work as research. However, at a program delivery level, some may see evaluation and research as distinct and may not see the connection between ethics and evaluation as central to their work. From Table 1 what remains paramount in Aboriginal and Torres Strait Islander research is consultation, negotiation, participation and ownership of the process and outcomes. In this context ethical guidelines are central to the conduct of evaluations and ought to be at the forefront of considerations for design and process. In the papers reviewed almost all health promotion interventions or initiatives were a collaborative project between Aboriginal

and Torres Strait Islander people and a range of organizations (health, education, councils, local government).

From the publications reviewed here it was difficult to ascertain the role that Indigenous people and communities had played in the research component of projects. However, eight of the 21 studies examined indicated that Aboriginal people had participated in the research. In some cases this involved Aboriginal health workers or community members liaising with communities, collecting data and working together with non-Indigenous researchers. There was limited discussion about building research capacity of Aboriginal and Torres Strait Islander people. Again, this is not to say it was not a component of the studies, rather that it was not discussed in the evaluation publications.

Characteristics of Indigenous health promotion evaluations

A report for the National Public Health Partnership[12] published during 2002 indicated that most public health strategies in relation to Aboriginal and Torres Strait Islander peoples are not evaluated, or evaluations are not published. Where evaluations have been completed, they were often limited, done inadequately or inadequately funded[12]. Evaluation of complex, multi-faceted health promotion and public health initiatives have long been recognised as challenging to appraise on the basis of difficulties with attribution and the application of study designs that minimise bias[15].

Table 2 summarises 21 evaluation studies of Indigenous health promotion initiatives. Of these, a total of 10 used qualitative methods only, two employed quantitative methods only, eight reported using mixed method approaches and one study was a systematic review. Most of the programs evaluated were addressing complex problems with multiple causal factors. The Aboriginal and Torres Strait Islander health promotion initiatives targeted health issues such as smoking, alcohol and drug use, healthy weight, diabetes type II, social and emotional wellbeing and family violence.

A wide range of data collection methods were reported including surveys and questionnaires, focus groups, interviews, arts based strategies, narrative inquiry, screening, tests and biological measures. The majority of evaluations were able to report on short- to medium-term program impacts with only two demonstrating longer-term health outcomes[31,32]. The types of impact or outcome indicators reported in the publications reviewed are summarised (Fig 1).

A number of limitations and challenges were reported that impact upon the evaluation process and quality of data. These included:

- long lead times between interventions and targeted health outcomes[16]
- inadequate time and other resources compromising the effectiveness of both programs and their evaluations[16-20]
- a disparity between western and traditional perspectives about health and language, limiting what could be evaluated[17]
- sensitivity to Aboriginal and Torres Strait Islander's position as researchers within their own communities[21]
- a need to assess whether the implementation process was participatory and empowering for participants[22]
- a need for better and more subtle indicators of change for measuring small improvements[18,23]
- insufficient base-line data, lack of control groups, use of self reporting, self selection of participants, poorly defined impact and outcome measures, gender balances, sample sizes, lack of time-series or longitudinal data collection[20,22,24-26,36].

Table 2: Evaluations of Indigenous health promotion initiatives[16-36]

Author, date, title	Description of initiative	Evaluation methods	Outcomes reported
1. Begley and Harald, 2005; Yarning for Better Health [24]	Aim to improve Indigenous knowledge of health issues, preventative health and provide community education to improve awareness of health initiatives, improve GP cultural awareness and strengthen links between GP and Indigenous population.	Qualitative and quantitative methods. No details provided.	Positive participant experiences reported but no conclusions drawn about the success of the program.
2. Tyrell, Grundy, Lynch and Wakerman, 2003; Laramba Diabetes Project [16]	Diabetes project in remote central Australian Aboriginal community. Project objectives included health education, improved access to health services, two-way learning and inter-sectoral health planning.	Quantitative research methods included audit of clinical records, store turnover calculations, market basket surveys. Qualitative data included review of project documentation, participant observation in community and health centre activities, unstructured interviews and group discussion with community members. Participation of community members and elders in project delivery and steering committee.	No significant changes to health outcomes of individuals with diabetes. Changes found in purchasing trends in community store and consumption of healthier food. Evidence of a capacity building effect as the community took carriage of the project.
3. Davis, McGrath, Knight, Davis, Norval, Freelander, Hudson, 2004; Amina Nud mulumuluna, You gotta look after yourself: evaluation of the use of traditional art in health promotion for Aboriginal people in the Kimberley region of Western Australia [17]	Development of culturally appropriate health education resources for Aboriginal people in the west Kimberley region by the Jean Hailes Foundation for Women, Aboriginal and non-Aboriginal health workers and artists. Two health booklets and a video produced.	Qualitative methods included seeking community perception of products by providing stamped self addressed envelopes into health booklets and asking people if they liked the booklet. Phone interviews, emails and face to face interviews conducted with community members 3 and 7 months following distribution. Active role of community Elders in steering the project.	Results reported health resources were well accepted, widely disseminated, fostered discussion, contributed to pride and self-esteem of local people. The use of traditional art offered a viable method for addressing the holistic health needs of Aboriginal health promotion.

Table 2 (continued)

Author, date, title	Description of initiative	Evaluation methods	Outcomes reported
4. Murphy, Kordyl and Thorne, 2004; Appreciative inquiry: a method for measuring the impact of a project on the wellbeing of an Indigenous community [18]	Indigenous community development project involving 60 young Indigenous people working with Elders and a professional artist to create performances of Dreamtime stories, celebrate Indigenous culture and promote a holistic concept of health and wellbeing.	Evaluation utilised a one-day qualitative appreciative inquiry workshop consisting of four phases: discover, dream, design and deliver.	Project impacts included Elder participation and contribution to the younger generation, building stronger relationships with service providers, strengthened community relationships and identification of visions for future aspirations.
5. Tsey and Every, 2000; Evaluating Aboriginal empowerment programs: the case of family wellbeing [27]	Family wellbeing and empowerment course for three groups of stakeholders: health professionals; family members; young people. Program developed and designed by survivors of 'the stolen generation'.	Qualitative methodology included theory driven analysis of literature and project documentation, participant observation, analysis of participants' personal narratives against set empowerment criteria.	High levels of personal empowerment, enhanced self worth, resilience, ability to reflect on the root causes of problems and problem solving ability. Reported modest improvements in general sense of wellbeing. There was no evidence of organisational or community empowerment.
6. Poelina, A & Perdrisat, I. 2004; A report on the Derby/ West Kimberley Project: Working with adolescents to prevent domestic violence [21]	Project to increase the awareness and understanding of domestic violence in the Derby Indigenous community, to develop culturally appropriate strategies for intervention and the reduction of domestic violence through the active participation of adolescents, families and communities.	Qualitative participatory action research used both as part of the development of the project and evaluation of the project. Indigenous co-researchers in the project utilising participant observation, formal and informal interviews, records of monthly meetings. Film makers collected visual evidence of project impact and outcomes. Case studies developed from key informants, steering committee and community members.	New programs established and existing ones enhanced including centres for men, women and young people and a school curriculum project. Developed interagency collaboration and partnerships between local government, service providers and community representatives. Developed a model for target groups with specific needs.
7. Victoire, A. 2003; Issues in Evaluation of a Health Promotion Intervention: taking Big Steps' [22]	The project tracked young Indigenous people's transition from rural and remote areas to regional centres. Goals of improving the mental health and wellbeing of young people (10-24 years) with a focus on the prevention of suicidal and self harming behaviour.	Qualitative methods included surveys for service providers, informal interviews and focus groups. Limited information about evaluation and results.	The project produced an information kit, video and diary to support young Indigenous people and service providers.

Table 2 (continued)

Author, date, title	Description of initiative	Evaluation methods	Outcomes reported
8. Mark, Mcleod, Booker, Ardler, 2004; The Koorie Tobacco Cessation Project [25]	Quit smoking programs for Indigenous people living in Illawara and Shoalhaven regions of NSW. Project combined support groups with NRT.	Qualitative and quantitative pre- and post-course survey with a three month follow up.	One hundred and fifteen people participated. After 3 months 6% of participants reported being abstinent from tobacco.
9. Mooney, Bauman, Westwood, Kelaher, Tibben, Jalaludin, 2005; A quantitative evaluation of Aboriginal Cultural awareness training in an Urban health service [26]	Cultural awareness training (CAT) program by South Western Sydney Area Health Service to influence the perceptions of, and attitudes towards Aboriginal people by health professionals, with a view to improving healthcare delivery.	Pre and post questionnaires given to intervention groups and also control groups who completed questionnaires on two occasions before attending CAT.	Half day CAT workshops do not have a significant effect in changing beliefs and attitudes about Aboriginal clients and resources could be better put to more systematic identifications of effective strategies.
10. Adams, Dixon, Guthrie, 2004; Evaluation of the Gippsland Regional Indigenous Hearing Health Program- January to October 2002 [28]	Program involved conducting ear health screens. These were considered in relation to the National Aboriginal and Torres Strait Islander Hearing Strategy 1995-1999 and clinical care guidelines on the management of otitis media.	Quantitative data collection and analysis of health screen outcomes and management.	354 ear health screens conducted with 126 children having adverse screen outcomes. Of the total number of screens 44% required further assessment and 42% required follow up appointments.
11. Dunn, and Dewis, 2001; Healthy Weight Program Evaluation, Queensland 1996-1999 [29]	Queensland Health community based weight and health lifestyle programs for Indigenous people. 50 programs conducted and 150 trained facilitators. Program consisted of series of workshops and individual assessments.	Qualitative interviews conducted with Indigenous and non-Indigenous program facilitators and quantitative screening data collected and analysed from program participants.	Evaluation identified gaps in facilitator knowledge and skills, value of program resources and barriers to implementation. Most participants who continued on the program for at least 8 weeks lost weight and decreased waist and hip measurements.
12. Tsey, Wenitong, McCalman, Whiteside, Baird, Patterson, Baird, Cadet-James, Wilson, 2004; A participatory action research process with rural indigenous men's group: monitoring and reinforcing change [23]	A collaborative action research project between academics, medical practitioners and the Yarrabah men's health group to support Aboriginal men. Men's group aims to improve self esteem through undertaking weekly health education sessions, counseling, men's health clinics and social activities and was funded as part of the National Suicide Strategy.	Qualitative, reflective monitoring of change and progress was gained through focus groups and self measurement scales.	Participation in the men's group resulted in modest changes in men's personal development and growth and in their response to family responsibilities.

Table 2 (continued)

Author, date, title	Description of initiative	Evaluation methods	Outcomes reported
13. Harvey, Tsey, Cadet-James, Minniecon, Ivers, McCalman, Lioyd and Young, 2002; An evaluation of tobacco brief intervention training in three indigenous health care settings in north Queensland [19]	Pilot training program for Indigenous and other health care workers to encourage brief interventions to reduce Indigenous client smoking.	Qualitative pre-training interviews with health staff, interviews with training facilitators and focus groups with health staff conducted immediately following training and follow-up interviews with health staff approximately 6 months after training. Focus groups were conducted with consumers and an interview with a manager at each site.	Changes in clinical practice reported among health care workers. Indigenous health workers reported own attempts to quit smoking. No evidence that anybody had given up smoking at 6 months after the intervention.
14. Gray, Saggers, Sputore, Bourbon, 2000; What Works? A review of evaluated alcohol misuse interventions among Aboriginal Australians [20]	Systematic review of intervention strategies that have been effective in reducing excessive consumption of alcohol among some segments of Australia's Aboriginal population.	Data base searches of alcohol intervention projects grouped into treatment, health promotion education, acute interventions and supply reduction. 27 studies identified and 14 selected for review, of these four were health promotion interventions.	Too few formal evaluations and a lack of robust methodologies employed. Inconclusive results for health promotion interventions.
15. Mikhailovich and Arabena, 2005; Evaluating an Indigenous Sexual Health Peer Education Project [30]	A sexual health peer education program for Indigenous youth in an urban setting incorporating peer educator training, capacity building and arts based education strategies.	A qualitative retrospective evaluation utilising document analysis, focus groups and interviews.	Evaluation identified positive immediate impacts for peer educator participants but was unable to demonstrate long term effects for participants, service providers or community.
16. Curtis, Pegg, Curtis 2004, Aunty Jean's Good Health Team – Listening to the voices of the Elders to create an Aboriginal Chronic and Complex Care Program. Illawara Aboriginal Vascular Health Program [31]	Aim of the project was to develop a model of health promotion, education and self management that could be supportive and sustain the development of good health behaviours for Aboriginal people with chronic and complex care needs.	Participatory action learning evaluation framework using a mixed-method approach with qualitative and quantitative measures.	Program outcomes reported improved self-management strategies; development of appropriate and effective partnerships, information sharing and enhanced capacity in physical activity.
17. Shannon, Canuto, Young, Craig, Schluter, Kenny, McClure. 2001. Injury Prevention in Indigenous Communities: results of a Two-Year community development Project [32]	Community owned injury prevention program using a community development strategy.	Quantitative pre- and post-change time series analysis of injury incidence data from medical clinics.	Demonstrated a statistically significant change in the frequency and distribution of non-hospitalised injuries in the community following the introduction of the injury prevention program. Decrease of 30% in the number of injuries occurring per month.

Table 2 (continued)

Author, date, title	Description of initiative	Evaluation methods	Outcomes reported
18. Ivers, Castro, Parfitt, Baile, Richmond and D"Abbs. 2005. Television and Delivery of Health Promotion Programs to Remote Aboriginal Communities [33]	A multi-component community tobacco prevention intervention developed for remote Aboriginal communities. Interventions included exposure to television advertising advice on cessation, provision of NRT or bupropion, anti-tobacco posters, Quitline and educational talks at school. Intervention conducted over a year.	Pre- and post-community surveys assessing changes in smoking behaviour and exposure to tobacco interventions were used with stakeholder interviews and observation.	Recall of anti-tobacco TV advertising was high in the remote Aboriginal communities. Those who recalled the advertising were more likely to quit than those who had not. Exposure to other interventions was not associated with an increased chance of cessation. The overall cessation rate was low.
19. Smith. 2002. Wadja Warriors Football Team's Healthy Weight Program [34]	A healthy weight and lifestyle and injury prevention program with an Aboriginal football team and other interested men (*n*=14). Program included workshops on foods and preparation for sports fitness, promotion of good nutrition and physical activity and skills for lifestyle change screening for diabetes and other conditions.	Pre and post intervention lifestyle screening questionnaire based on self-reported changes to food choice, behaviour, physical activity and feelings at the end of the program.	High level of participant satisfaction with program. Self-reported changes to eating habits, ways of cooking and increased physical activity.
20. Goo. 2003. Self-Development in Order to Improve community Development: an evaluation of a personal empowerment pilot initiative in Far North Queensland Indigenous communities [35]	Family wellbeing and empowerment program conducted over five years with five stages: exploring and understanding human needs; change processes; grief, loss and trauma; family violence; and facilitation skills. Stages 1-4 consist of nine 4-hour sessions and stage 5 is a one-week intensive course.	Participatory action research used for evaluation and program. Program evaluated in four Indigenous communities (three remote). An evaluation questionnaire administered to participants (*n*=40) immediately after completion of workshops with follow up interviews 6 months post-intervention.	Program was well received and participatory action research reported to be appropriate. Group work was reported to reinforce feelings of connectedness and belonging and the program offered potential to alter the way social and health issues could be addressed with Indigenous communities.
21. Rowley, Daniel, Skinner, White, O'Dea. 2000. Effectiveness of a community-directed 'healthy lifestyle' program in a remote Australian Aboriginal community [36]	Community directed healthy lifestyle program aimed at primary and secondary prevention of diabetes and cardiovascular disease. Program involved formal and informal education sessions, physical activity groups, dietary change supported by cooking and shopping classes and store tours.	Evaluation of health outcomes (weight, glucose tolerance, plasma insulin and triglyceride concentrations) in a cohort of high-risk individuals (*n*=49 over two years). Cross sectional community survey (*n*=200 at baseline, 185 at to years, 132 at 4 years) of process and impact of intervention.	Weight loss not sustained in high-risk cohort but reductions observed in fasting insulin concentration. No change in prevalence of diabetes, overweight or obesity. Improvements observed in dietary intake and levels of physical activity.

NRT, Nicotine replacement therapy.

- Improved self-management
- Enhanced community capacity
- Changes in clinical practice
- Improved screening levels
- Participant satisfaction
- Bio-physiological change
- Lifestyle and behaviour change
- Policy and practice change
- Resource development
- Service provision
- Community cooperation and networks
- Personal and community empowerment
- Changed beliefs and attitudes
- Improved health literacy
- Reduction in morbidity
- Increased sense of self-worth

Figure 1: Indicators of change in Aboriginal and Torres Strait Islander health promotion program evaluations.

In essence, despite the fact that many of the programs were innovative, well received and supported by communities, the majority of evaluation designs were insufficiently robust to measure the intermediate or long-term impacts or desired program outcomes of the complex and multifaceted interventions described. This, however, is not specific to evaluations of Indigenous health promotion initiatives but a challenge for evaluators more generally. Furthermore, some of the studies used study designs that made it difficult to identify the specific components of the programs that contributed to program success. In this sample of studies mixed method approaches did appear to have greater success in isolating the elements of program success.

Discussion

An examination of the ethical guidelines and the evaluation studies in this selective review revealed a range of factors that were attributed to the success of Aboriginal and Torres Straight Islander health promotion initiatives[1,7,11-14]. These included:

- the role of community Elders and the importance of widespread community support
- the value of participatory research
- the designation of Aboriginal health workers as cultural brokers
- the need to make explicit the way in which ethical guidelines have influenced methodology
- the potential of mixed method approaches in evaluation.

A number of the evaluation studies identified the establishment of steering (or reference) groups led by community Elders and program participants as a critical factor in the success of the program and evaluation process[17,30,31]. In accordance with guidelines for the conduct of ethical research, it is not only important to establish widespread community support for the implementation of programs but that the involvement, support and participation of community members must be maintained throughout the evaluation process. Where Aboriginal and non-Aboriginal researchers and organisations are engaged in a research partnership greater attention could be focused on building research capacity within the community from the early stages of the health promotion project.

Participatory evaluation practices were reported to strengthen community ownership and sustainability of the intervention as well as fostering participation and cooperation in evaluations. In some cases the use of

participatory action research was reported as an empowering process for program participants and community members participating in the evaluation[21,23,31], but this approach can require longer time periods for the completion of the evaluation[35,36].

Participatory approaches to evaluation appear to be a requirement if following any of the ethical guidelines for research with Aboriginal and Torres Strait Islander communities. Across these documents, practice guidelines stipulate the need for the involvement of Indigenous individuals and communities as collaborators in the research[11], evaluation protocols being community driven[12], and negotiating agreed research plans collaboratively[14].

Another factor reported to be of value in evaluation practice included the designation of Indigenous health workers acting as cultural brokers between non-Indigenous evaluators and the community. This strategy facilitated the opportunities for non-Indigenous researchers with particular skills to be appropriately introduced or integrated into the project evaluation process and the community[30]. Indeed, successful programs and evaluations appeared to be those in which the program and the evaluation remained community driven and controlled and increasingly non-Indigenous researchers diminished their role over time but ensured that feedback and results were provided back to the community promptly and regularly.

Attempts to bring greater rigor to evaluations of health promotion initiatives has been a challenge to the field of health promotion for the last decade and are not unique to evaluations of Indigenous health promotion initiatives. This might be addressed to some extent by the use of critical appraisal frameworks[37] during the design phase of evaluations or for enhancing the quality of publications. Many critical appraisal tools are now widely available and free[37]. They generally comprise of criteria or checklists or standards that are used to evaluate evidence. They can be used to assess the value of a single study or several studies. While not widely discussed in the literature they could also be used to assist in the design and development of evaluation protocols to improve methodological rigour[38].

Alternatively greater use of mixed methodology approaches could be appropriate in evaluations of complex interventions[15]. This involves mixing or combining quantitative and qualitative research techniques, and the use of multiple data using different strategies or approaches in a way that the combination is likely to produce complementary strengths and reduce methodological weaknesses. This approach may answer a broader range of research questions and provide a stronger evidence base for conclusions about outcomes[39]. Evaluators working in the area of Indigenous community health promotion could look to utilising a broader range of qualitative methods including ethnography, case studies, narrative approaches and arts-based methods within evaluation practice, given the reported value and success of such approaches within programs themselves. Arts-based evaluation methods were successfully used within programs and, in some instances, as part of evaluation data collection methods; however, the discussion of this approach has been somewhat limited[17,18]. The possibilities for arts-based strategies within evaluations should be considered in much greater detail, as should the use of oral, narrative or story telling as data collection methods.

Conclusion

A wide range of innovative Aboriginal and Torres Strait Islander health promotion programs are conducted and evaluated in Australia each year. An analysis of selected evaluation literature revealed a number of issues that are relevant for those involved in the evaluation of Aboriginal and Torres Strait Islander health promotion initiatives. Evaluations need to be explicitly underpinned by guidelines for ethical research with Aboriginal and Torres Strait Islander people, as these will help inform choices about the design of evaluations, as well as processes used. A more explicit discussion of how the guidelines have shaped evaluation practice within publications would be useful in

improving evaluation practice for early or new researchers in the area as well as demonstrating good practice.

Challenges or barriers to effective evaluation practice were clearly described in the literature, the most notable being the inadequate time and resources available for program implementation and evaluation. Establishing realistic expectations of what can be evaluated from the outset of programs is important. A second major challenge is the need to establish effective partnerships to work collaboratively with participants, not only in the period of program implementation, but also for evaluation. Building Aboriginal and Torres Strait Islander research and evaluation capacity could be a component of all Indigenous research. The third major challenge centres on the need to establish, in overtly demonstrable ways, the rigor of evaluation study designs so that findings and perspectives can stand up to external scrutiny. Here the use of critical appraisal tools may prove useful in the early design of evaluation studies.

One of the most important issues to emerge from this review is the need to re-emphasise the interdependent relationship between appropriate standards of ethical behaviour in health promotion research, and rigorous methods of conducting that research. While this review has raised this issue for discussion and debate, further on-going reviews such as this will need to be undertaken to ensure that standards are improved and maintained.

Recommendations

As a result of this review, the following recommendations are presented:

- In accordance with guidelines for the conduct of ethical research with Aboriginal and Torres Strait Islander people, it is not only important to establish community support for the implementation of health promotion programs, but also throughout the evaluation process. The establishment of steering groups led by community Elders and community members may enhance evaluation practice.
- It may be beneficial to other researchers if those publishing reports on evaluations of health promotion initiatives describe how ethical guidelines were used in the program or initiative, and how they influenced the evaluation process. This could encourage a broader use of the guidelines and better dissemination of good practice.
- Community participation, collaboration and control ought to be the defining feature of evaluations of Aboriginal and Torres Strait Islander health promotion initiatives. While Indigenous cultural brokers have been shown to be an effective means of enhancing the work of cross-cultural research teams, evaluators should give more consideration to building research capacity within Indigenous communities from the early stages of the health promotion project or evaluation.
- Developing rigor in evaluations of health promotion initiatives is a challenge to all evaluators. Those engaged in working with Aboriginal and Torres Strait Islander communities could look to utilising critical appraisal tools to improve the quality of evaluation designs, mixed method approaches and a broader range of qualitative methods including ethnography, case studies, narrative approaches or arts based methods. These may offer creative ways of responding to the complexity of multifaceted community interventions.

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