Can doing research be a catalyst for changing tobacco smoking? An example from remote Aboriginal communities in the Northern Territory

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Background

In the Australian population as a whole there has been long-term trend for reduction in smoking prevalence, which is now less than 20%.[1] Amongst Indigenous Australians generally, 51% of men and 47% of women are daily or regular smokers and these proportions appear to be unchanged since the 1990's.[2] In studies conducted over almost 20 years, smoking prevalence has been consistently higher in the NT's 'Top End' than in the rest of the Indigenous population with 68%-83% of men and 65%-73% of women using tobacco.[3,4,5] Current surveys in the region are finding similar very high rates.

In the developed world smoking prevalence has fallen steadily in response to individually-oriented measures along with public education, and supply control.[6] While there is ample evidence for the effectiveness of interventions for reducing the prevalence of smoking in mainstream populations, it is not known whether these interventions can work in Australia's Indigenous populations. Most of the interventions available and tried in mainstream communities have not been tried or rigorously evaluated in Indigenous communities.[7]

This paper uses information and observations about the impacts of the research process on smoking behaviours in an intervention and evaluation study targeting smoking in three remote Indigenous communities in the NT. We believe that the process of doing research **itself** is a catalyst for changing smoking behaviours.

Top End Tobacco Project

Pilot study

The current research project was preceded by a 12 month pilot study funded by the Commonwealth Department of Health and Ageing. This was conducted in 2006/07 in Groote Eylandt communities. The pilot aimed to assess requirements to implement sustainable intervention programs to support Indigenous people in the NT's 'Top End' to quit smoking. Modest successes were facilitated through building on existing clinic staff efforts to implement a community-wide public health campaign about tobacco smoking.[8] Project outcomes included:

- development of resources utilising local artists, language, and concepts
- training for health staff in tobacco brief interventions and Nicotine Replacement Therapy (NRT)
- changes in standard clinical practice
- improved access to NRT by providing it free in outlets across the communities.

In support of the project, the Anindilyakwa Land Council covered the costs of purchasing the NRT.

Sustainability of interventions is likely because the NT Department of Health and Community Services' Tobacco Control Project is now supporting the Groote Eylandt pilot project. Although the pilot included fewer intervention components, it assisted to demonstrate the feasibility of a larger study with a more comprehensive set of components which we are now conducting.

Current study

Commencing mid-2007, a multiple-component, community-action intervention is being implemented and its effectiveness in reducing tobacco smoking evaluated over five years in three remote Indigenous communities in the 'Top End' of the Northern Territory (NT). We are just over 18 months into the five-year project. Addressing social and cultural cues, psychological and physiological dependence and related dimensions, intervention includes a combination of evidence-based strategies that have been applied to other populations and community-driven ones being developed as the project progresses.

It is hypothesised that the intervention will lead to an increase in the number of tobacco smokers who: consider quitting, seek support to quit, attempt to quit but failed, or succeed to quit smoking tobacco between baseline and follow-up. To evaluate the effectiveness of the intervention we are conducting baseline and follow-up surveys using field-tested interviews and monitoring tobacco retail data monthly. A process evaluation component will ensure the study is implemented as designed, and intervention components are delivered as proposed. It will also document the procedures used to mobilise the service system to support community strategies to address tobacco. The five-year time period allows for comprehensive, detailed data collection and careful feedback of study results to communities.

The three similarly-sized study communities have a combined population of approximately 4200. They are widely separated from one another with little social interaction between them, a feature which ensures that the interventions implemented in one community will not affect the others and distort the study results. Whilst the study communities are in Arnhem Land and the research team is based in Far North Queensland, the logistics of working at a further remove (i.e. in another state) were less of a challenge than originally anticipated. It has been easier to access these Top End communities in the NT from Far North Queensland than it is to travel to some of the remote communities in our own region due to the wider range of travel options in the NT. We work on a short-term fly-in fly-out model, staying a minimum of three days in each community, often five days, with up to four team members travelling at a time. We have found this allows sufficient time to engage with service providers and community members. Quarterly visits with frequent contact in between works well giving each community time to digest information and develop their own strategies. To address the current gap in remote community-based tobacco services this model is economically viable but is contingent upon the development of local capacity, facilitation of strong support networks and support from the remote research team for the community to deal with tobacco-related issues.

Baseline surveys

At the time of writing, almost 400 participants in total have been recruited, with interviews taking place in community settings such as workplaces (CDEP, land management, workshops and stores), informal social groups of various kinds, homes, sporting venues, child-care centres and community commons. Participants were assured that individual interviews were for the purpose of compiling a whole community picture of tobacco use.

Co-workers are recruited in each community and are a vital component of community engagement and facilitation of the base-line survey. In recruiting workers we strive for a range of young and older workers, both male and female thereby managing gender, age, clan and status-related issues. The co-workers' ability to translate, assist with recruitment of survey participants and facilitate development of community

networks relevant to the project exemplifies their critical role in the project. Importantly they enhance the team's awareness and management of cultural protocols. Co-workers continue to work on the project with varying degrees of participation after the base-line survey dependent on other work commitments, existing skills, and interest in capacity building in the areas of community development, health promotion or research.

Survey questionnaires were field-tested in homelands which are small, satellite settlements of up to 100 people situated near the study communities. In the baseline survey participants were asked about their current smoking status, readiness for change and previous quit attempts. Consent was obtained for a follow-up interview.

Self-reported smoking status was confirmed by measuring expired carbon monoxide using a small hand-held CO monitor. This easily-operated, highly portable and durable tool also proved useful in engaging community members to participate in survey interviews and provided opportunities for brief interventions after the interview. Many community people expressed a desire to 'have a go' and many participants compared their CO levels with other participants. Several participants immediately declared their intention to quit or cut down their tobacco consumption in order "to get that poison out of my body". Health centres are being encouraged to consider acquisition of CO monitors to use as health promotion tools in both the clinic and wider community and also as part of individual client quit support sessions. A challenge to this assessment was the high prevalence of respiratory problems making exhaling difficult for some. This provided opportunity for further brief interventions.

The very public nature of interviews plus the use of the CO monitor often operated by other community members caused a stir of interest through the communities and further stimulated discussion regarding tobacco, its effects and the challenges of quitting and its benefits.

Tobacco sales data are being collected on a monthly basis. Data are drawn from both counter sales and stock ordering information from seven retail outlets. These data are not an absolute indicator of tobacco consumption as they do not reliably reflect the diversity of smoking patterns, and used alone, cannot detect individual's changed smoking behaviour. They do however provide objective measures of tobacco use at the community level. They should be sensitive enough to detect changes in smoking behaviours across a community since data is being collected at regular intervals over an extended period. Seasonal changes or abrupt alterations in community behaviour can be measured. Data readily available for similar communities in the wider region is also used to compare trends and changes in non-study communities. The data are being communicated to the study communities regularly through quarterly newsletters prepared by the research team.

Intervention components
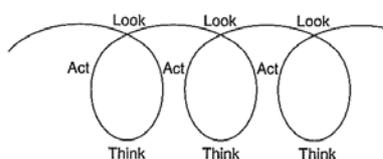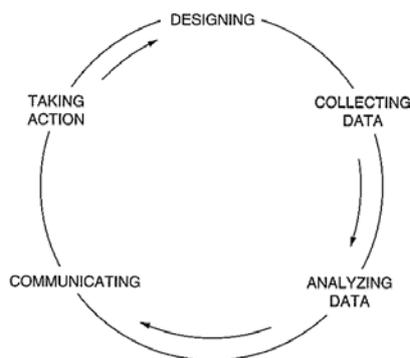
Stringer and Genat 2004

On completion of the base-line survey the following core components are being used in each community: public meetings; assisting health workers to quit; increasing the delivery of tobacco brief interventions at health services; increasing the availability of NRT; workplace interventions; school-based interventions and enhancing community resolve, reflecting some evidence of what works in other populations. These are prioritised by each community and local strategies developed in accordance with community capacity and readiness for change. They are based on culturally appropriate concepts ensuring local ownership.[9]

Using Stringer and Genat's (2004) action research model, the intervention phase of the project is being informed by results of the base-line survey and feedback of these results to the community. The base-line data and evidence from other populations to reduce the number of tobacco smokers are discussed with each community in a variety of forums. These include workplaces, public meetings and clan and family groups. Agreements are reached between individual communities and the researchers outlining obligations of community, organisations, individuals and the research team for implementation of the multiple strategies. The project is in its second year and it is anticipated that the cyclical nature of action research will be evident as community members in partnership with the research team examine the data and reflect on what it means to their community, decide on their own courses of action, implement them, and reflect on the effectiveness of those actions.[10] This process ensures avoidance of implementation of externally-developed programs based on a "one-size fits all approach" which is regarded as inappropriate in diverse Indigenous communities.[11] In this relatively early stage of the project the process has lead to several community-developed initiatives which the research team is supporting eg the formation of a Tobacco Action Group.

Being flexible and responsive to the needs and opportunities present allows development of initiatives suitable for each study community. An example is when meeting with school staff about potential classroom initiatives (suggested by community members following survey feedback) discussion arose regarding the need to develop workplace initiatives to address prevalence of smokers among staff and strengthening existing smoke-free workplace policies.

The public meetings component was implemented in one community in the following way. In this community preliminary data from the base-line survey and tobacco retail data were provided to a meeting of community members and stakeholders including health workers, school staff, sport and recreation officers, CDEP workers, and women's groups. Although those present were concerned by the high prevalence of tobacco use in their community they were encouraged to see that the majority of current smokers interviewed were thinking of or already trying to quit. The amount of money spent on tobacco in the community was equated with the value of commonly recognised articles in the community eg electricity tokens, outboard motors, vehicles and new houses. These financial comparisons with the value of local tobacco sales consistently evoked a surprised response. It was explained that the major beneficiaries of tobacco sales are the tobacco companies and the Commonwealth Government through federal excises. Community members present concluded that the baseline survey results were useful for all of the community and needed to be delivered in a way that people could understand them. A model used previously in an Arnhem Land cannabis use study was discussed and favourably received. This

model uses pictorial representations of prevalence proportions and local concepts of life stages to communicate prevalence data.[12] The group decided that the most appropriate method to deliver to the community the survey feedback, along with information on tobacco and its effects, was clan by clan, family by family and that the research team should be responsible for this assisted by local co-workers. Several other potential courses of action were identified including: formation of a Tobacco Action Group; acquisition of funding for community-based tobacco workers; formation of quit support groups outside the clinic and a film to be made of a "walk against tobacco" by youth along local song lines. It was agreed that a range of interventions was needed and that they should be embedded in cultural understandings.

In consultation with co-workers including a community cultural advisor a survey feedback presentation was prepared including: translation of local prevalence estimates into appropriate images; information on tobacco and its effects and how to support smokers wanting to quit. Over a period of a week, a series of presentations was delivered to individuals, families, workplaces and at outdoor public meetings in the community and at one homeland. The level of complexity of the information provided was adapted to audiences eg presentations to health staff included more in depth discussion of quit strategies including available pharmacotherapies such as NRT. Further feedback is planned and an audiovisual resource based on this information is currently being prepared in local language.

Discussion

Development and implementation of local expressions of intervention components during and after the project is contingent upon ongoing community engagement. On reflection there are several features of community engagement processes that appear to have been effective in the study communities. Use of local co-workers has been central to success so far and is an expression of the many respectful and meaningful partnerships developed between the research team and community members. The very public nature of the baseline survey excited interest and discussion across the communities. Tobacco use was introduced into part of the study region by Macassan traders 400 years ago[13] and its use has become "embedded in our culture" (pers comm.: D Gondarra 2007). It has been necessary to acknowledge and consider local cultural aspects of tobacco use in the development of effective and realistic local strategies to decrease tobacco use.

The research team has made a commitment to ongoing feedback of the project's progress and results to community members. This has been through the quarterly newsletters and other contacts between site visits. The reach of the newsletters continues to widen as further connections are made. The research team's demonstrated willingness to act on community recommendations has lead to a strengthening of community engagement. Special effort has been made to ensure inclusion in the project of a wide range of stakeholders. The project has been implemented during a time of competing priorities such as the Commonwealth Emergency Response and local government amalgamations into super-shires in the NT. It has been surprising in these challenging circumstances that the project has captured so much attention, further encouraging us about the effectiveness of our community engagement strategies.

It was evident in discussions at the time of survey feedback that a majority of participants took on the broad community view and ownership of the data: "this is the tobacco story of **our** community". This assisted people to look at pictorial presentations of the survey data broken down by gender and age and identify specific at risk groups for targeted interventions. The same type of imagery was used to convey comparisons of smoking rates in the whole Australian population with those of the study communities. This evoked responses of surprise and dismay :"**we** have to do something about this".

Responses to the baseline survey and feedback processes in two communities have demonstrated a willingness to engage in action to control tobacco use and to stimulate individual and collective change. A

modest increase for some people in their knowledge of the effects of tobacco is an important achievement in communities where some disease processes are understood within a framework of magic. In discussions about nicotine, raised dopamine levels and addiction one community member exclaimed "That's it!!! I understand!!! Now I know why I starve for ngarali (tobacco)". A Tobacco Action Group has been formed in one community and is developing its own strategies. Two quit competitions are running in another community and these are being completely managed by community members. Health staff in this community are supporting these efforts. Some workplaces are considering enhancing their smoking policies and have provided opportunities for the research team to access staff in work hours to encourage and support quit efforts. Access to NRT has been increased through the research team distributing patches and gum for some smokers to trial along with information regarding effective use. Linkages are developed with local health services to ensure ongoing supply. Follow-up of individuals demonstrates some quit attempts and for others, longer periods of abstinence.

Conclusion

Our observations and experience suggest that research can be a catalyst for change in tobacco smoking in remote Aboriginal communities providing an action research model is used. Those implementing similar projects may benefit from our experiences and consider the following:

- conducting surveys in a manner that stimulates local interest

- acknowledgement and consideration of local cultural aspects of tobacco use

- delivery of meaningful feedback of research data to study communities

- act on community recommendations

- inclusion of a wide range of stakeholders at every stage.

In 2008 the Commonwealth Department of Health & Ageing committed $14.5 million to tackle high rates of smoking in Indigenous populations.[14] The Indigenous Tobacco Control Project aims to help close the seventeen-year life expectancy gap between Indigenous and non-indigenous Australians through a reduction in tobacco smoking which has been identified to account for 17% of the gap.[15] The components of this initiative will occur in three phases.[16] The first phase is formative research. This is to be followed by community interventions and then by workforce capacity building. Since our studies suggest that research and community interventions can be conducted simultaneously using our approach, we recommend that formative research and community interventions be implemented concurrently in this timely national initiative rather than sequentially. Using the kind of approach we have established, there is no need for community interventions to wait for the evidence on what works to be produced. The necessary evidence can be compiled and evaluated as interventions are implemented. Intervention strategies can be assessed as the research is being conducted and fine-tuned for greater effectiveness. In Indigenous health generally there is a lack of research to improve Indigenous health outcomes that provides direct evidence on how to create change and that produces change as the research occurs.[17] Doing research on tobacco which is a catalyst for change may assist to address this lack.

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Presenter

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