

Pride and performance: Innovative multimedia in the service of behavioural health change in remote Indigenous settings

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Abstract

Objectives

The use of innovative information technology is now well established in health. However, while the gap in health status between Indigenous and other Australians is both significant and unchanging, there is limited application of these new approaches to addressing this national health priority. This may reflect the 'digital divide' which is another facet of Indigenous disadvantage. This paper describes an approach to address both issues located in remote Indigenous settings.

Findings

The National HITnet Development Program (HITnet) began as a proof-of-concept study of touchscreen technology in two Indigenous health settings. It has subsequently expanded to a number of remote Indigenous communities and developed new platforms and applications to respond to emerging health issues. In creating narrative, interactive, multimedia approaches to address choices in relation to health behaviours, the community development and engagement effects of the creative process have been highlighted. These findings suggest that these approaches will be suited to further expansion in the area of health and development.

Keywords

Indigenous, behavioural health, interactive technology, touchscreen, performance.

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1. Introduction

A divide exists in terms of health status and outcomes between Indigenous and non-Indigenous Australians. This has been framed as an issue of rights and social justice [1] that reflects the burden of adverse social determinants. Prominent among these are abysmal educational outcomes [2-4] that Kickbusch [5] refers to as the "education divide", noting that the "positive and multiplier effects of education and general literacy on population health, particularly women's health, are well known and researched", and that "health literacy as a discrete form of literacy is becoming increasingly important for social, economic and health development" (p. 289). However, Kickbusch reminds us that most populations, particularly those in the developing world, learn through listening and watching rather than through literacy-dependent media.

The lower school retention rates of Aboriginal and Torres Strait Islander Australians are associated with poor educational outcomes have also been shown to be associated with lack of access to electronic resources [6] that are particularly suited to addressing the health learning styles identified by Kickbusch. Indeed, this constitutes a third divide between these populations – the "digital divide". [7] Thus Indigenous Australians, particularly those living in discrete Indigenous communities, which Peggy Brock [8] and Noel Pearson [9] have referred to as "outback ghettos" confront a 'triple divide', compromised in terms of health and education status, and electronic engagement with a globalised world.

Increasingly, bridging the digital divide is understood as a critical opportunity to contribute to bridging the health divide. In this paper a program in north Queensland is described, which for six years has been building capacity in this area by creating audio-visual, touchscreen-based resources requiring minimal formal literacy. These address a range of health issues stemming from lifestyles associated with disadvantage. [10, 11] Through this process the importance of encouraging and harnessing Indigenous agency by engaging end users in the development and production of material (rather than as passive recipients) has been emphasised. This also utilises the effectiveness of theatre as a health promotion vehicle that is particularly relevant in populations with compromised literacy, and as a potent means to address stigmatised conditions. [12, 13] As noted by Mbizvo:

Theatre has proven to be an effective and entertaining strategy for dissemination of health information and reinforcement of positive health messages. Theatre can overcome literacy barriers through use of local experience and vernacular to provoke emotional and analytical responses in the audience. ([12] p. S30)

This paper presents preliminary findings drawn from the evaluation of one segment of the project [14] utilising local performance to produce innovative multimedia resources to address key Indigenous, behavioural health priorities – sexual health and alcohol use. Personal and community benefits from such engagement are identified and the implications for this approach in health considered.

2. Background

The National HITnet Development Program has evolved through three overlapping phases of a long-term multimedia health promotion strategy. [15] Phase one of the strategy (2001-02) was a pilot project in two Aboriginal communities which identified that Aboriginal people will use touchscreen technology (with audio feedback) to access culturally appropriate health information (the original topics being diabetes and joint problems presented in an interactive but didactic style). The pilot provided strong circumstantial evidence that use of touchscreen technology in local communities changes attitudes and intentions toward health and behaviour, and that further development and evaluation of the project was warranted. [10, 11]

The second phase (2003-06) sought to measure health and technology-related outcomes from kiosk use in four Cape York communities. The aim was to formally measure change in knowledge, attitudes, behaviour and local capacity, while ensuring gradual transition in ownership to the local level, and involved production of new modules on diabetes, child health (including a 'serious game' to reinforce learning), and alcohol use (with an interactive version of the AUDIT – Alcohol Use Disorder Identification Test [16]). In response to the challenge of developing engaging material on consequential harm resulting from alcohol misuse, a narrative approach was utilised for a further module, *Grog Story*, which allows the user to explore choice-contingent consequences within the narrative. Through this experience the project team was alerted to the powerful local 'enhancement' effects of production, which led to using the same approach but with more sophisticated interactive video to produce a module on sexual health, *Put It On*, which was filmed in one of the remote communities.

The third and current phase is a national expansion of an interactive multimedia health network to improve access for information-disadvantaged Indigenous populations. The project has grown to include multimedia and web-ready product, with touchscreen kiosks in twelve remote

and urban communities and a further fourteen planned or under negotiation for 2007-08.

3. Community development productions

The production process was informed by the principles of realistic evaluation [17] which posits, in brief:

MECHANISM + CONTEXT = OUTCOME

For the purposes of this project, this framed the process of resource production. Forum theatre provided a means through which to adapt mainstream health knowledge to the particular circumstances of Indigenous communities. The IT format enabled presentation of sequential choices and outcomes, each of which relates directly to the identified health knowledge. In this way, forum theatre was the link between the health messages themselves and their contextualisation in such a way as to support a process whereby users of this resource are able to create their own domains of meaning around the issues in question. It is from this constructivist process that the ultimate outcome – informing choices supporting health – is achieved. The realistic evaluation paradigm may thus be reframed as:

Forum theatre (health mechanism + contextualisation) = transformations of knowledge and practice

The process of visioning and creating these resources through the above paradigm involved five overlapping phases.

3.1 Clarification of health information.

The key health messages for the two modules (*Grog Story* and *Put It On*) were derived from separate sources. For *Grog Story* these were derived from the seven examples of consequential harm identified in a standard screening tool – the AUDIT – the items being examples of dependency, social harm and health consequences. For *Put It On* the key messages were developed through workshops involving experts in the field of Indigenous sexual health.

3.2 Contextualisation

Taking these message into a performative space involved two steps. In the first the parameters and boundaries were defined through consultation with community elders who provided an understanding of social and cultural constraints. This included consideration of language use, explicitness, corollary messages (in each relating to behaviours associated with the issue in question – for instance, for *Grog Story* this involved disputation and expressions of irresponsible behaviour, and for *Put It On*, elements of flirtation and seduction). From experience elsewhere it was clear that even if a product had the 'right' messages and was 'appropriate' to local language and style, if it was deemed to be offensive it would not be tolerated or used. This process also resulted in agreement

that the material to be presented should be about negotiating health affirming choices, and should be clear, inoffensive and culturally consonant. For *Put It On* four key negotiation elements were: a) around engaging in sexual activity itself and the ability to decline or refuse invitations or pressures to do so; b) about being prepared for safe sex, specifically having access to condoms; c) about insisting on safe sex practices – that is, using a condom, and; d) around awareness of and ability to use health services to support healthy sexuality.

Engagement with elders also provided for a powerful enlistment of their support in addressing an issue of major health importance. So defined, the second element in terms of contextualisation was through working with representatives of the target population – youth and young adults. This was supported through the sanction provided by their family (who gave informed consent to participate), community (through the previous work with elders) and by key institutions (health and education). The goal in this phase was to embed the messages within the lived reality of Indigenous young people (in terms of language, behaviour and norms) while acknowledging the defined constraints provided by community elders.

3.3 Narrative adaptation

Through a series of three workshops which included the above elements, the skeleton of a set of narrative options around the key choices and negotiations was transformed into scripts which were then reviewed, revised and ultimately affirmed by participants. The community therefore, as well as the target group, decided the content and style of the story, and this was then further developed by script writers. Rap songs for this story were also written by a local artist.

This process not only located each health module within a particular story (going to a football game for *Grog Story*, flirtations around a party for *Put It On*) but defined its character and ‘style’ (the latter including not only the visual backgrounds but also appropriate soundtrack which in both cases involved locally-produced music). This process allowed local knowledge systems to be prominently represented together with key mainstream knowledge – health messages imparted by health experts (Indigenous and non-Indigenous).

3.4 Realisation

Building on the awareness of the projects from the above activities, production involved assembling a film crew (recruited in north Queensland under Indigenous leadership), casting (including two ‘lead’ actors who then provided a ‘mentoring’ role for other young people recruited locally), filming, post-production and, ultimately, community launch and deployment onto touchscreen kiosks. In each community a formal community launch was held.

3.5 Follow up

Following production in the community in which *Put It On* was filmed, the actors involved in module creation were interviewed by the Project Director and by the Community Development Officer. They fed back that they were particularly interested in continuing to learn about film making and other multimedia skills. [14] The Community Development Officer (also a lead actor) subsequently returned as a mentor to further encourage those involved in the project. Another actor later gained entry into the National Aboriginal and Islander Student Dance Academy in Sydney. Further rap workshops around sexual health are planned. These participants will also be contacted in the production of further health modules planned for this community.

4. Outcomes

The evaluation of the wider project involved both quantitative and qualitative approaches in consideration of a range of health modules produced for HITnet. For the purpose of this paper findings are presented in relation to the sexual health module – *Put It On*. Quantitative information consisted of trace data obtained from four kiosks in remote Cape York communities that were collected across six one week time periods, three before and three after the deployment of the multimedia module to the kiosks. One of these communities was the community enhancement site in which *Put It On* was produced. Qualitative findings came from 100 individual and group interviews across key informants, clinic staff and community members. The project adopted an action research framework with the experiences of the project staff informing the ongoing project structure. In relation to the narrative multimedia module, this resulted in recognition of the need for:

1. Community member involvement in the creation of new content from consultation, story creation, script writing and casting through to filming, in order to ensure local relevance and style, and meaningful participation;
2. Employment contracts to ensure community actors/participants receive award wages (influencing drive, commitment and self-determination) to encourage a robust work ethic and to understand copyright conditions;
3. Use of the production process itself, the final product, and the community launch (involving actors/participants) as opportunities to engage individuals, families and the community in other health and media-related activities to ensure wider promotion of the project. This last element is also an important vehicle for enhancing community pride;
4. Partnership development with local health service providers in communities where modules are produced to ensure ongoing health promotion activities capitalise on opportunities created to engage people in the issue;

5. Strategies for sequential film production in communities to harness the participatory environment that these activities create. As noted by the Co-director of *Put It On*:-

I think that the highlight for me was on the final day when we re-shot the rap scene and we moved the location to the beach. I was really surprised to see a lot of young males, unpressured, following us down to be a part of the rap scene. Throughout the week they were shy, looking in but not coming forward. It took a while for them to actively be a part of that, but it was good to see how they all wanted to be a part of filming in the end and forgot about the shame part of it.

4.1 Qualitative findings

Interviews were undertaken with the young people participating as actors in the production immediately after filming was completed. In these interviews the informants reported that:

- awareness of sexual health as an issue had increased, although it was not at all clear whether this had translated into an increase in functional knowledge;
- they felt that they now had a greater sense of responsibility around these issues towards others in the community because of their 'role model' status;
- the individual experience was empowering in that none had ever acted before. For instance a fifteen year old male informant whose circumstances in life had been very challenging explained that he felt that over the five days of filming his confidence grew, he felt himself "coming out" and that by the end of this time "I feel like there's nothing I couldn't do". He went on to state that he had now found something in life that he felt he could do well at and that he now had an ambition – to be an actor;
- the presence in the community of a professional film team, which included highly regarded Indigenous professionals, was a powerful role-modelling, mentoring experience, particularly given the professional focus that was brought to each actor's capacities.

The HITnet Community Engagement Coordinator (who was also an actor in this production) noted how the production of *Put It On* addressed issues of self-esteem and community pride. This resonated with comments from two of the other participant/actors in *Put It On* (females aged 16 and 17 years) who were interviewed seven months after filming and who spoke at some length about their increased knowledge of sexual health and health related behaviours, one (sadly) noting: "The movie's good. I think they should put one on in [community X]. They have lots of STIs there. My cousin. She is my age and she has two kids. She is really struggling". On being asked about personal change one reported:

My attitude. I used to go out partying with my friends and get really drunk, then those boys would come around and take advantage of us. I stopped drinking after making the movie. It wasn't about the drinking. It was about sex and disease. I started to think: If I get those diseases, in the future my mum wouldn't have grandchildren. I might lose my friends too if I got some disease.

The importance of local production was noted both in terms of stimulating community interest generally, and more specifically for participants, one young woman relating that she now intended to go to media school. Another young person had similar comments and noted that while she knew many of the issues raised through formal education programs: "I learned what you have to do at the hospital. I am able to help a lot of other people now. I am able to encourage them to go to the hospital, not so much playing a different role, but with my friends, they ask me for advice now". She added that:

Songs were a big thing. The kids from the community came in and helped us with it. At first when it came out they used to come and ask if there was going to be another one and if they could be involved in the next one. Another one would be good. Young couples and having children at a young age, there is a lot of that in the community at the moment. They just drop out of school and have kids. Some are happy – some are not. I think it's a problem, and they are dropping out of school, mostly in year ten and eleven – four girls dropped out.

The local health service Sexual Health Coordinator with responsibility for this community gave comments that support the above, adding that.

Kids say I should "put it on – put it on" when I am contact tracing. It has become a bit of a catch phrase. When I ask them why they didn't use a condom they say 'I was drunk' or 'I was stoned'. Feedback from the kids is that they like it. They see their own peers that they identify with, they see their own location, their own back yard. And it rings true. ... The reason that it is so good is that engaging kids from [the community] is really difficult.

Key informant interviews suggested that the module had encouraged particular groups to attend the health centre, the administration officer noting: "more people are coming to the clinic to see the screens. But maybe they are coming to take condoms", adding in relation to the visual presentations that: "some people can't even read. They need movies and they need to talk their own lingo. ... Tell them what's going to happen to them, like on cigarette packets, treat beer like cigarette packets".

The Social and Economic Coordinator employed by the local Council noted:

The DVD [Put It On] was really popular. We presented it at the youth centre in February. We had a barbecue. There were about 60 kids and 20 or 30

adults. The response was overwhelmingly positive. There was lots of laughs. The adults said it was good for the kids to get this information. One woman said we should do it again. There has been no negative feedback. We absolutely want to go ahead with the Hip Hop workshop. It provides a different experience for our kids. They learn new skills, see different things, have positive role models...

This kind of intervention is brilliant because it encourages participation, then the awareness about the whole message is elevated. The kids got really engaged in the process. Having the screening and having the touchscreen feeds it back to the community. I have five youth workers and they are all really keen to see it happen again. We are getting the PCYC involved in the centre.

4.2 Quantitative findings

Quantitative data were obtained from trace data analysis of over 6500 purposeful uses across the six collection periods which demonstrated that among those users who identified age and sex there were similar proportions by gender and age distribution. The vast majority of users (>90%) activated content rich material (an index of 'purposeful use' rather than random 'passing by' activation). Kiosk use was consistent over time with preference for problem-solving or activity-oriented content (rather than 'flat' information provision) in the didactic, non-narrative health education modules. Introduction of the narrative multimedia modules resulted in a significant increase in average session duration from around five minutes (which is similar to the proof of concept study) to over ten minutes. Across all four communities this became the most frequently accessed module with consistently higher levels of use in the community in which *Put It On* was shot. Analysis of random selections of activation sequences allows the sequence of individual uses to be traced, providing a means of exploring the logic of use. For instance, two uses documented in the full report reveal very different patterns. One shows a user who interacts with this module for twelve minutes. One scenario (seduction leading to sex with a condom) is activated and the user leaves the session. The second is quite different. This user (presumed on the basis of sequence and timing) is engaged with the module for over half-an-hour and explores three options – seduction but decision not to have sex; sex without a condom and having a check-up; and sex using a condom. This pattern of use suggests purposefully exploring behaviour and consequences.

5. Discussion

These HITnet projects demonstrated that kiosk-based approaches are feasible in very remote and challenging environments and are used by community members. While this is consistent with previous work [10, 11] the challenge of demonstrating quantitative evidence of health outcomes in terms of health literacy or behaviour gains in this population remains.

However, a significant further outcome of the HITnet project arose from both specifically addressing community engagement and localising production and support. During this process, community enhancement occurred as local capacity emerged through the various stages of the project to address choice in relation to health behaviour. The use of narrative and interactive approaches empowered the community to take control of and expand the applications of this project locally. Such community capacity building required time, effort, skilled expertise and resources in communities and was underpinned by an appreciation of local cultural norms and processes. It has also led to development of further narrative, interactive, multimedia projects.

Project evaluation showed that the high level of community engagement and investment in the content creation and production process led to widespread use of and interest in the resulting health content across all ages in the community, although it was noted that older people possibly felt less confident about using the technology. The high turnout for the launch of this resource in the community in which it was produced is in sharp contrast to attendance at mainstream health promotion activities.

Furthermore, the approach made possible using these interactive technologies may have additional benefits by comparison to conventional health promotion modes such as posters and pamphlets. Touchscreen mediated information delivery not only allows the information presented to be culturally relevant, but supports externalization and objectification of key health issues which, in an Indigenous cultural context where externalization is common, may make these important health messages less threatening and more functionally accessible. To this end it enables information to be communicated as a story in which the kiosk user is both 'observer' and 'participant'.

This is consistent with Kickbusch's observation that most populations, particularly in the developing world, learn through listening and watching. Ironically, mainstream media representations of indigenous peoples are NOT supportive of a positive sense of identity and self esteem – both because of the reinforcing of pejorative stereotypes and also by silence and 'invisibility'. [18] By contrast, the qualitative information presented here suggests a positive impact on individuals self esteem as they engaged in creating their own representations – at the local level. Indeed, as noted by Daniels et al [19]: "progress is doomed if we remain insensitive to the local texture of a problem" (p. 246). Furthermore, the end product – the HITnet kiosk facility – provides capacity for on-demand information independent of staffing in remote and challenging environments and is sustainable. In such disadvantaged populations we believe that these uses of innovative technology are a way of reducing inequality in terms of health, education and digital engagement. Furthermore, in so addressing the 'triple divide' this

initiative may contribute to challenging the mental health disadvantage of Indigenous Australians – the “triple jeopardy”. [20]

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References

1. Human Rights and Equal Opportunity Commission, *Aboriginal and Torres Strait Islander Social Justice Commissioner: Social justice report 2005*. 2005, Human Rights and Equal Opportunity Commission: Sydney.
2. Hunter, E., *Back to Redfern: Autonomy and the 'middle E' in relation to Aboriginal health. Discussion Paper Number 18*. 2006, Australian Institute of Aboriginal and Torres Strait Islander Studies: Canberra.
3. Zubrick, S., et al., *The Western Australian Aboriginal Child Health Survey: The social and emotional wellbeing of Aboriginal children and young people*. 2005, Curtin University of Technology and Telethon Institute for Child Health Research: Perth.
4. Zubrick, S.R., et al., *The Western Australian Aboriginal Child Health Survey: Strengthening the capacity of Aboriginal children, families and communities*. 2006, Curtin University of Technology and Telethon Institute for Child Health Research: Perth.
5. Kickbusch, I.S., *Health literacy: addressing the health and education divide*. Health Promotion International, 2001. **16**(3): p. 289-97.
6. Biddle, N., B. Hunter, and R. Schwab, *Mapping Indigenous education participation: CAPER Discussion Paper No 267*. 2004, Australian National University: Canberra.
7. Daly, A.E., *Bridging the digital divide: The role of Community Online Access Centres in Indigenous communities. Discussion Paper No. 273/2005*. 2005, Centre for Aboriginal Economic Policy Research, Australian National University: Canberra.
8. Brock, P., *Outback ghettos: A history of Aboriginal institutionalisation and survival*. 1993, Melbourne: Cambridge University Press.
9. Pearson, N., *Vale hope in outback hellhole*, in *The Australian: Inquirer*. February 17, 2007.
10. Hunter, E. and H. Travers, *"Touch and see (and hear)": Touchscreen technology and Indigenous health: An evaluation of the pilot introduction of health touchscreens into remote and urban Indigenous communities in Queensland. Final Report to the Office of Aboriginal and Torres Strait Islander Health*. 2002, North Queensland Health Equalities Promotion Unit: Cairns.
11. Hunter, E., H. Travers, and B. McCulloch, *Bridging the information gap: IT and health in Indigenous populations*. Australasian Psychiatry, 2003. **11**(Suppl1): p. S51-S56.
12. Mbizvo, E., *Theatre - a force for health promotion*. Lancet, 2006. **368 (Medicine and Creativity)**: p. S30-S31.
13. Schutz, B. and G. Bilbrough, *The magic of theatre*. Lancet, 2006. **368 (Medicine and Creativity)**: p. S32-S33.
14. Hunter, E., H. Travers, and J. Gibson, *Touch and see and hear... and DANCE! Health Interactive Technology Report. Report to Health Promotion Queensland on "Implementing and evaluating an innovative, sustainable, IT-based approach to enhancing health literacy and local capacity in disadvantaged remote populations"*. 2007, North Queensland Health Equalities Promotion Unit, University of Queensland: Cairns.
15. Hunter, E., et al., *Bridging the triple divide: Performance and innovative multimedia in the service of behavioural health change in remote Indigenous settings*. Australasian Psychiatry, 2007. **in press**.
16. Conigrave, K.M., J.B. Saunders, and R.B. Reznik, *Predictive capacity of the AUDIT questionnaire for alcohol-related harm*. Addiction, 1995. **90**(11): p. 1479-85.
17. Pawson, R. and N. Tilley, *Realistic evaluation*. 1997, London: Sage.
18. Adams, G., et al., *The psychology of engagement with indigenous identities: a cultural perspective*. Cultural Diversity and Ethnic Minority Psychology, 2006. **12**(3): p. 493-508.
19. Daniels, N., B.P. Kennedy, and I. Kawachi, *Why justice is good for our health: The social determinants of health inequalities*. Daedalus, 1999. **128**(4): p. 215-251.
20. Tarantola, D., *The interface of mental health and human rights in Indigenous peoples: Triple jeopardy and triple opportunity*. Australasian Psychiatry, 2007(in press).