Potential effectiveness of specific anti-smoking mass media advertisements among Australian Indigenous smokers

Harold S. Stewart1, Jacqueline A. Bowden2, Megan C. Bayly3, Greg R. Sharplin2, Sarah J. Durkin3, Caroline L. Miller4*, Sharon E. Givans5, Charles D. Warne3 and Melanie A. Wakefield3

1Aboriginal Health Council of South Australia, Unley 5061, Australia, 2Tobacco Control Research and Evaluation South Australia, Eastwood 5063, Australia, 3Centre for Behavioural Research in Cancer, Cancer Council Victoria, Carlton 3053, Australia, 4Cancer Council South Australia, Eastwood 5063, Australia and 5The Social Research Centre, North Melbourne 3051, Australia

*Correspondence to: C. Miller. PO Box 929, Unley BC South Australia 5061, Australia. E-mail: cmiller@cancersa.org.au

Received on June 21, 2011; accepted on July 6, 2011

Abstract

Aboriginal and Torres Strait Islander Australians (Indigenous Australians) have more than twice the smoking prevalence of non-Indigenous Australians. Anti-smoking campaigns have demonstrated success in the general population but little is known about their impact among Indigenous people. A total of 143 Indigenous and a comparison group of 156 non-Indigenous smokers from South Australia were shown 10 anti-smoking advertisements representing a range of advertisements typically aired in Australia. Participants rated advertisements on a five-point Likert scale assessing factors including message acceptance and personalized effectiveness. On average, Indigenous people rated the mainstream advertisements higher than non-Indigenous people and were more likely to report that they provided new information. Advertisements with strong graphic imagery depicting the health effects of smoking were rated highest by Indigenous smokers. Advertisements featuring real people describing the serious health consequences of smoking received mixed responses. Those featuring an ill person were rated higher by Indigenous people than those featuring the family of the person affected by a smoking-related disease. With limited Indigenous-specific messages available and given the finite resources of most public health campaigns, exposure to mainstream strong graphic and emotive first-person narratives about the health effects of smoking are likely to be highly motivating for Indigenous smokers.

Introduction

Recent Australian statistics indicate that in 2008, almost half (47%) of Aboriginal and Torres Strait Islander Australians (Indigenous Australians) aged 15 years and over smoked regularly, which is more than twice the smoking rate of non-Indigenous Australians [1]. The World Health Organization has expressed concern about the high levels of tobacco use by Indigenous peoples [2], encouraging greater attention to redress this important public health disparity.

In 2009, the estimated Indigenous population in Australia was approximately 550,000, constituting 2.5% of the Australian population. The majority of Indigenous Australians (76%) live in major cities and non-remote regional areas [3]. The burden of disease for Indigenous Australians is 2.5 times that of the total Australian population [4] and the overall mortality rates are approximately twice those of non-Indigenous people. Tobacco use is responsible for 20% of all Indigenous deaths [4], and two of every three deaths within the Indigenous population...
before the age of 65 years can be attributed to heart, stroke and vascular diseases compared with 1 in 10 for the non-Indigenous population [5].

The Australian Government is committed to addressing the high smoking prevalence in this priority population [6], but there is limited evidence to guide funding decisions. Australia has a long history of running anti-smoking mass media campaigns, and there is sound evidence to show that these campaigns have had a positive effect in reducing smoking prevalence in the general community [7–9]. However, the impact of mass media campaigns on the Indigenous community is not well understood. Within the context of stalled smoking prevalence in Indigenous communities [10], there have been calls to develop campaigns specifically for Indigenous people. However, there is a dearth of research and evaluation of tobacco interventions in Indigenous populations in Australia [11–14], and so it is not possible to determine whether the apparent null effects of these campaigns for Indigenous smokers (as compared with the general population) might be due to differences in ‘meaningful exposure’ to these campaigns, differences in ‘opportunities and support to sustain long-term quitting’ and/or differences in the these mainstream campaigns’ ability to ‘motivate smokers to quit’ [15].

A limited number of studies in New Zealand, Canada and Australia have evaluated the attitudinal or behavioural impact of anti-smoking television advertisements on their respective Indigenous communities. Evidence from New Zealand indicates that advertisements designed for the general population were also effective in generating calls to the national Quitline by Maori people [16]. An exploratory Canadian study found that media advertising was the second most common way. Indigenous participants reported they heard about the Quitline (38%), after referrals from health professionals (46%) [17].

Three studies have been published evaluating the effect of specific anti-smoking mass media campaigns on Indigenous people in Australia [18–20]. One focus group study indicated that awareness of a widely broadcast national mainstream campaign was high and that it affected knowledge of the health effects of smoking among Indigenous people [18]. In another study, in three remote Aboriginal communities, more Aboriginal people recalled a widely broadcast national mainstream campaign than any other cessation intervention, and although the overall cessation rate was low, a small number of smokers reported having quit as a result of seeing the advertisements [19]. The third evaluated the impact of one mainstream campaign on Indigenous people, finding that it influenced the quitting thoughts and behaviours of Indigenous smokers. However, further research was recommended to determine if these findings could be generalized to other campaigns [20]. These findings indicate that when Indigenous smokers are exposed to mainstream anti-smoking messages, they have the potential to motivate them to quit. The first objective of this study is to extend this previous research by examining a range of anti-smoking ads to determine whether, in general, mainstream ads influence Indigenous people to consider quitting smoking.

In the general population, there is clear evidence to suggest that advertisements that arouse strong negative emotions (depicting the serious harm of smoking) outperform those that do not [21–24]. Experimental research also supports the hypothesis that advertisements that evoke high arousal will receive greater viewer attention and will be remembered more readily [25]. Furthermore, evidence reveals that negative content tends to produce higher levels of arousal than positive content, while advertisements that use humour perform relatively poorly [26]. In Australia, there has been a strong tendency to air these types of highly emotionally evocative graphic and narrative style messages highlighting the health effects of smoking. However, it is not yet clear whether these effects also hold for Indigenous people. The second objective of this study is to assess the potential effectiveness in Indigenous smokers of different types of typically aired mainstream messages.

Method

Participants

There were 38 groups of participants—20 groups of Indigenous smokers (either Aboriginal or Torres
Strait Islander) and 18 groups of non-Indigenous smokers, included to provide context for the responses of Indigenous smokers. Sixteen groups were held in metropolitan Adelaide, the capital of South Australia (SA), and a total of 22 groups in the SA rural centres of Port Lincoln, Port Augusta and Ceduna (Table I). Non-Indigenous smokers aged 18–40 years were a convenience sample recruited to the study via a consumer database and advertising through a professional recruitment agency. Recruitment of Indigenous smokers (also aged 18–40 years) was conducted by liaising with key contacts in Indigenous communities. Participants were paid an incentive according to market rates (AUD 80 for metropolitan and AUD 70 for rural groups).

Participants were excluded at recruitment if they: did not smoke at least five cigarettes per day; worked in marketing, health promotion or the tobacco industry; could not read or write in English or had participated in market research in the past 6 months or research involving anti-smoking advertising in the past 18 months. A maximum was set of two participants with a university degree or higher per group.

**Anti-smoking advertisements**

A total of 10 anti-smoking advertisements were tested (Appendix 1). Eight of the ads represented a diverse range of the types of anti-smoking ads typically aired in Australia, including strong graphic ads about the health effects of smoking (strong graphic), ads featuring real people’s stories about health effects (narrative), and those showing graphic simulations of health effects (simulations). As a comparison point for these strong emotive mainstream ads typically aired in Australia, an ad highlighting the positive aspects of quitting (as there were no advertisements of this type produced in Australia at the time of data collection, a New Zealand ad featuring Maori people was used), a more humorous or reflective advertisement, and an advertisement about the effects of second-hand smoke on children featuring Indigenous people were included.

**Procedure and measures**

Data collection was undertaken in August to September 2010. This study was based on a protocol that has been successfully implemented with appropriate translation and other minor procedural amendments among smokers in 10 low- to middle-income countries [27]. At the beginning of each group testing session, participants completed a demographic questionnaire, were shown a test advertisement for shampoo and completed four practice ad rating items. Following this, groups completed three activities.

In Part 1, participants were shown the first anti-smoking advertisement twice, after which they individually completed an 11-item questionnaire. This procedure was repeated for the remaining nine ads. This questionnaire measured the extent to which participants felt the ad (i) was ‘easy to understand’ (Understand) and (ii) ‘believable’; (iii) ‘taught them something new’ (New information); (iv) made them ‘stop and think’; (v) made them feel ‘Uncomfortable’; (vi) made them feel ‘more concerned about their smoking’ (Concerned) and (vii) ‘more likely try to quit’ (Motivated); (viii) was ‘relevant’ to them; (ix) ‘provided good reasons to quit smoking’ (Good reasons); (x) whether they thought that it was ‘an effective anti-smoking ad’ (Effective) and (xi) whether they would be ‘likely to talk to someone else about the ad’ (Discuss). Each item was measured on a five-point Likert scale, where 1 represented ‘strongly disagree’, 2 ‘slightly disagree’, 3 ‘neither agree nor disagree’, 4 ‘slightly agree’ and 5 ‘strongly agree’. To counterbalance any potential effects of ad viewing order on ratings, two
different ad presentation orders were used, one being the reverse of the other.

In Part 2, participants were presented with screenshots of all 10 ads simultaneously and asked to indicate which one ad ‘most’ made them feel like trying to quit smoking. Part 3 involved a structured group discussion of each of the advertisements, led by the group moderator. Each anti-smoking ad was replayed and discussed in turn. These discussions focused primarily on message comprehension, acceptance and appropriateness of the ad content. Each session lasted approximately 1.5–2 hours, with the quantitative ratings sections typically lasting 30–40 minutes.

Data management and analyses
The categorical ad rating responses from Part 1 were recoded into binary responses for logistic regression analyses. Ratings of 4 or 5 (slightly agree and strongly agree) were classified as positive responses, and ratings of 1–3 were classified as neutral or negative responses. Principal component analysis was performed using the 11 ad rating items averaged across the 10 ads. This yielded two composite scales and four stand-alone items. The first scale was comprised of the items Understand, Believable and Relevant and is referred to as Message acceptance (α = 0.774). The second scale was comprised of Stop and think, Concerned, Motivated and Good reasons and is referred to as Personalized effectiveness (α = 0.952). The four single-item outcomes were New information, Uncomfortable, Effective and Discuss. The current sample was large enough to detect a 13% difference in proportions with 80% power at $p < 0.05$.

Multivariate logistic regression analyses were performed for each of the six ad rating outcomes, using separate models for each group of participants (Indigenous and non-Indigenous). The averaged predicted probabilities of positive ratings for all ads on all outcomes were calculated over all observations for both groups. Significance testing of the highest and then lowest rated ad on each measure compared with all other ads (using the highest rated ad and then the lowest rated ad as the reference category) was conducted using multivariate logistic regression analyses with robust standard errors for both groups. Further multivariate logistic regression analyses were conducted on the combined sample of all participants, in order to examine any differences in Indigenous and non-Indigenous participants’ ad ratings for the six outcomes, separately for each of the 10 ads. Frequency tables of the ads most often selected as most likely to motivate quitting were produced and differences in group ratings on this item were examined using chi-square analyses.

All multivariate analyses controlled for ad order, location (metro or rural), gender, age, parental status, highest level of educational attainment, average number of cigarettes smoked daily, quitting intentions, previous quit attempts and all 10 ads. Further analyses examined clustering at the individual and location level (Adelaide, Port Lincoln, Port Augusta and Ceduna) but found all clustering was due to individual-level effects. Therefore, all repeated measures analyses used robust standard errors to control for individuals having rated a total of 10 advertisements each.

The discussions from Part 3 were recorded and transcribed. Analysis of key themes was then undertaken and a brief summary of the results is presented. Any quotes referred to throughout this paper have been referenced with the location (A = Metropolitan Adelaide, R = Ceduna, Port Lincoln, Port Augusta), Indigeneity (I = Indigenous, nI = non-Indigenous), gender (M = male and F= female) and age group.

Results
Sample characteristics
Overall, non-Indigenous smokers reported smoking significantly more cigarettes per day than Indigenous smokers ($t(276) = 2.85$, $P = 0.005$). Significant differences were also observed between groups in education level, parental status and previous quitting attempts (Table II).

Ad rating outcomes: Indigenous smokers
‘Bronchoscopy’ was the highest rated ad overall with Indigenous smokers rating this ad above 80% for five of the six outcome measures, where more than 80% of Indigenous smokers agreed this ad delivered on these five measures (Table III). This
Table II. Demographic characteristics of Indigenous and non-Indigenous participants

<table>
<thead>
<tr>
<th></th>
<th>Indigenous (n = 143)</th>
<th>Non-Indigenous (n = 156)</th>
<th>Total (n = 299)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ad presentation order (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Order A</td>
<td>56.6</td>
<td>50.6</td>
<td>53.5</td>
</tr>
<tr>
<td>Order B</td>
<td>43.4</td>
<td>49.4</td>
<td>46.5</td>
</tr>
<tr>
<td>Gender (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>47.6</td>
<td>49.4</td>
<td>48.5</td>
</tr>
<tr>
<td>Female</td>
<td>52.5</td>
<td>50.6</td>
<td>51.5</td>
</tr>
<tr>
<td>Age (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18–25 years</td>
<td>51.1</td>
<td>48.7</td>
<td>49.8</td>
</tr>
<tr>
<td>26–40 years</td>
<td>49.0</td>
<td>51.3</td>
<td>50.2</td>
</tr>
<tr>
<td>Location (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metropolitan adelaide</td>
<td>55.9</td>
<td>56.4</td>
<td>56.2</td>
</tr>
<tr>
<td>Port Augusta (rural)</td>
<td>11.9</td>
<td>15.4</td>
<td>13.7</td>
</tr>
<tr>
<td>Port Lincoln (rural)</td>
<td>16.8</td>
<td>21.2</td>
<td>19.1</td>
</tr>
<tr>
<td>Ceduna (rural)</td>
<td>15.4</td>
<td>7.1</td>
<td>11.0</td>
</tr>
<tr>
<td>Highest education level (%)***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary school</td>
<td>1.6</td>
<td>0.0</td>
<td>0.8</td>
</tr>
<tr>
<td>Some secondary school</td>
<td>68.9</td>
<td>25.9</td>
<td>46.3</td>
</tr>
<tr>
<td>Completed secondary school</td>
<td>13.9</td>
<td>34.1</td>
<td>24.5</td>
</tr>
<tr>
<td>Certificate or diploma</td>
<td>9.0</td>
<td>16.3</td>
<td>12.8</td>
</tr>
<tr>
<td>Trade qualification</td>
<td>1.6</td>
<td>10.4</td>
<td>6.2</td>
</tr>
<tr>
<td>University or above</td>
<td>4.9</td>
<td>13.3</td>
<td>9.3</td>
</tr>
<tr>
<td>Average cigarettes smoked each day (mean, standard deviation)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12.8 (9.0)</td>
<td>15.7 (7.9)</td>
<td>14.4 (8.5)</td>
</tr>
<tr>
<td>Parent (%)*</td>
<td>55.3</td>
<td>40.4</td>
<td>47.2</td>
</tr>
<tr>
<td>Thinking about quitting in the next 12 months (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>80.0</td>
<td>71.4</td>
<td>75.5</td>
</tr>
<tr>
<td>Previously tried to quit (%)**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>68.4</td>
<td>82.1</td>
<td>75.7</td>
</tr>
</tbody>
</table>

Significant difference between groups *P < 0.05; **P < 0.01; ***P < 0.001.

Table III. Averaged predicted probabilities of positive ad ratings for Indigenous smokers (95% confidence intervals)

<table>
<thead>
<tr>
<th>Message</th>
<th>Message acceptance (%)</th>
<th>Personalized effectiveness (%)</th>
<th>New information (%)</th>
<th>Uncomfortable (%)</th>
<th>Effective (%)</th>
<th>Discuss (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alive</td>
<td>95%* (91–99)</td>
<td>89% (84–94)</td>
<td>78% (72–85)</td>
<td>82% (75–88)</td>
<td>84% (78–90)</td>
<td>44% (36–53)</td>
</tr>
<tr>
<td>Anthony</td>
<td>94% (90–98)</td>
<td>89% (84–94)</td>
<td>80% (74–87)</td>
<td>89%* (84–94)</td>
<td>82% (76–89)</td>
<td>53% (45–61)</td>
</tr>
<tr>
<td>Bronchoscopy</td>
<td>91% (87–96)</td>
<td>89%* (84–95)</td>
<td>84% (78–90)</td>
<td>85% (79–91)</td>
<td>84% (78–90)</td>
<td>53%* (45–61)</td>
</tr>
<tr>
<td>Which disease</td>
<td>83% (76–89)</td>
<td>67% (59–75)</td>
<td>59%^ (51–67)</td>
<td>55% (47–63)</td>
<td>67% (59–74)</td>
<td>45% (36–53)</td>
</tr>
<tr>
<td>Billy</td>
<td>94% (90–98)</td>
<td>78% (71–85)</td>
<td>69% (61–76)</td>
<td>74% (67–81)</td>
<td>85% (79%–91%)</td>
<td>42% (34–50)</td>
</tr>
<tr>
<td>Amputation</td>
<td>92% (87–96)</td>
<td>85% (79–91)</td>
<td>77% (70–84)</td>
<td>86% (80–92)</td>
<td>85%* (79–91)</td>
<td>48% (40–56)</td>
</tr>
<tr>
<td>Leave behind</td>
<td>87% (82–93)</td>
<td>84% (78–90)</td>
<td>73% (65–80)</td>
<td>66% (58–74)</td>
<td>79% (72–86)</td>
<td>46% (38–54)</td>
</tr>
<tr>
<td>Bubblewrap</td>
<td>89% (83–94)</td>
<td>81% (75–88)</td>
<td>70% (62–77)</td>
<td>76% (69–83)</td>
<td>79% (72–86)</td>
<td>46% (38–54)</td>
</tr>
<tr>
<td>Family time</td>
<td>80%^ (73–86)</td>
<td>63%^ (55–71)</td>
<td>67% (59–75)</td>
<td>35%^ (27–43)</td>
<td>58%^ (50–66)</td>
<td>36%^ (28–44)</td>
</tr>
<tr>
<td>Ronaldo</td>
<td>91% (86–96)</td>
<td>85% (79–91)</td>
<td>87%* (81–92)</td>
<td>77% (70–84)</td>
<td>84% (78–90)</td>
<td>48% (40–56)</td>
</tr>
</tbody>
</table>

Percentages are adjusted for ad order, location, age, gender, parental status, highest level of educational attainment, average number of cigarettes smoked each day, quitting intentions, previous quit attempts, all ads and individual-level clustering. **Bold** figures highlight those ads that were not rated significantly lower than the highest rated ad for each outcome at P < 0.05. The highest rated ad for each outcome (columns) is indicated by * and **bold**: the lowest rated ad for each outcome is indicated by ^.
was followed closely by ‘Cigarettes are eating you alive (Alive), Anthony, Amputation, Who will you leave behind (Leave behind) and Ronaldo—Otolaryngologist (Ronaldo)’. These were among the top rated ads for at least three of the six outcome measures. Overall, ‘Bubblewrap’ received mixed ratings across the six measures. The ads ‘Which disease and Family time’ received the lowest ratings overall, and these ads were consistently rated significantly lower than the top performing ads (i.e. Alive, Anthony, Amputation, Leave behind and Ronaldo) on their respective outcomes.

Comparison of Indigenous and non-Indigenous smokers’ ad ratings

Where significant differences in ad ratings between Indigenous and non-Indigenous participants were observed, these were always in the direction of Indigenous smokers giving higher ad ratings than non-Indigenous smokers (Tables IV and V). Of the mainstream ads, Indigenous smokers rated Alive and Amputation significantly higher on Personalized effectiveness, New information, and Uncomfortable compared with non-Indigenous smokers. Indigenous smokers were more likely to give higher ratings than non-Indigenous smokers for the reflective and positive ads Which disease and Family time. Bronchoscopy and Bubblewrap were the only ads that were rated similarly between groups. Of all outcome variables, New information was consistently rated higher among Indigenous smokers. The ad that included Indigenous people, ‘Billy’, was rated significantly higher on message acceptance, Personalized effectiveness, Uncomfortable and Effective by Indigenous smokers compared with non-Indigenous smokers. Indigenous smokers also reported being more likely to discuss Billy, Amputation and Family time compared with non-Indigenous smokers.

Effects of previous ad airings

Four ads had previously been aired in SA or were being aired at the time of the study: Alive, Bubblewrap, Amputation and Which disease. Post hoc logistic regression analyses indicated that compared with other ads that had never been aired in SA, ads that had or were currently being aired were significantly more likely to show higher ratings on Message acceptanc e [odds ratio (OR): 1.34, 95% confidence interval (CI): 1.07–1.66, \( P = 0.009 \)] and were significantly less likely to show higher ratings on New information (OR: 0.85, 95% CI: 0.74–0.99, \( P = 0.031 \)). Ad airing had no association with the important outcomes Personalized effectiveness, Uncomfortable, Effective or Discuss.

Table IV. Averaged predicted probabilities of positive ad ratings for non-Indigenous smokers (95% confidence intervals)

<table>
<thead>
<tr>
<th>Message acceptance (%)</th>
<th>Personalized effectiveness (%)</th>
<th>New information (%)</th>
<th>Uncomfortable (%)</th>
<th>Effective (%)</th>
<th>Discuss (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alive</td>
<td>92% (88–96)</td>
<td>70% (63–77)</td>
<td>54% (46–62)</td>
<td>66% (59–73)</td>
<td>74% (67–81)</td>
</tr>
<tr>
<td>Anthony</td>
<td>80% (74–86)</td>
<td>78% (71–84)</td>
<td>38% (30–46)</td>
<td>79%* (73–86)</td>
<td>82% (76–88)</td>
</tr>
<tr>
<td>Bronchoscopy</td>
<td>95%* (91–98)</td>
<td>83%* (77–89)</td>
<td>76%* (70–83)</td>
<td>77% (70–84)</td>
<td>87%* (81–92)</td>
</tr>
<tr>
<td>Which disease</td>
<td>77% (70–84)</td>
<td>32% (25–39)</td>
<td>17% (11–23)</td>
<td>21% (14–27)</td>
<td>38% (31–46)</td>
</tr>
<tr>
<td>Billy</td>
<td>62%^ (55–70)</td>
<td>37% (29–44)</td>
<td>16%^ (10–22)</td>
<td>36% (28–43)</td>
<td>54% (47–62)</td>
</tr>
<tr>
<td>Amputation</td>
<td>83% (77–89)</td>
<td>69% (62–76)</td>
<td>46% (39–54)</td>
<td>71% (63–78)</td>
<td>75% (68–82)</td>
</tr>
<tr>
<td>Leave behind</td>
<td>90% (86–95)</td>
<td>78% (71–84)</td>
<td>42% (34–49)</td>
<td>65% (58–73)</td>
<td>78% (72–85)</td>
</tr>
<tr>
<td>Bubblewrap</td>
<td>95% (91–98)</td>
<td>74% (67–81)</td>
<td>54% (46–62)</td>
<td>64% (57–72)</td>
<td>81% (75–88)</td>
</tr>
<tr>
<td>Family time</td>
<td>69% (61–76)</td>
<td>30%^ (23–37)</td>
<td>32% (25–39)</td>
<td>13%^ (8–18)</td>
<td>36%^ (28–43)</td>
</tr>
<tr>
<td>Ronaldo</td>
<td>88% (83–93)</td>
<td>74% (67–81)</td>
<td>62% (55–70)</td>
<td>70% (63–77)</td>
<td>76% (69–82)</td>
</tr>
</tbody>
</table>

Percentages are adjusted for ad order, location, age, gender, parental status, highest level of educational attainment, average number of cigarettes smoked each day, quitting intentions, previous quit attempts, all ads and individual-level clustering. Bold figures highlight those ads that were not rated significantly lower than the highest rated ad for each outcome at \( P < .05 \). The highest rated ad for each outcome (columns) is indicated by * and bold; the lowest rated ad for each outcome is indicated by ^.
Indigenous and non-Indigenous participants' overall ad choice

Figure 1 shows that of the five ads, most frequently selected by Indigenous and non-Indigenous participants as most likely to make participants feel like trying to quit smoking, four of these were the same for both groups: Anthony, Ronaldo, Bronchoscopy and Alive. Leave behind was selected by significantly more non-Indigenous than Indigenous participants ($\chi^2 = 18.53, P < 0.001$), as was Bubblewrap ($\chi^2 = 3.92, P = 0.048$). Significantly more Indigenous than non-Indigenous participants selected Billy ($\chi^2 = 6.10, P = 0.014$) and Amputation ($\chi^2 = 4.25, P = 0.039$) as most likely to make them feel like trying to quit.

Qualitative feedback

Alive was described by participants (particularly Indigenous groups and rural groups) as horrible and disgusting: ‘Makes me want to throw up’. (RIM18-25). This ad was described as targeting everyone because it did not use a specific person. Indigenous groups commonly reported that Alive made them think about the damage that their smoking was doing to their bodies, especially the external damage caused by mouth cancer.

All groups referred to Anthony as sad. Some participants found the reality of the ad to be both confronting and scary: ‘Makes me want to cry’. (RM18-25). This ad was described as targeting everyone because it did not use a specific person. In addition, it leaves me feeling concerned about my own smoking and the people I'd leave behind’. (AIF26-40). Some participants felt that Anthony was speaking directly to them: ‘I feel like he is talking to you’. (RM18-25).

Bronchoscopy was gross, disturbing and frightening. The wheezing sound was attention grabbing across a range of the groups, with some commenting grabbing across a range of the groups, with some commenting that it made them feel like they were choking. Participants referred to Bronchoscopy as gross. ‘He is choking, it’s so disgusting. Makes me feel like I’ve got something in my throat’. (AIM26-40).

Participants referred to Bronchoscopy as gross, disturbing and frightening. The wheezing sound was attention grabbing across a range of the groups, with some commenting grabbing across a range of the groups, with some commenting that it made them feel like they were choking. Participants referred to Bronchoscopy as gross. ‘He is choking, it’s so disgusting. Makes me feel like I’ve got something in my throat’. (AIM26-40).

Which disease elicited two common responses. Some participants reported finding it funny, while others found it uncomfortable. For all models, non-Indigenous is the reference category (1.00). Significant difference between groups *$P < 0.01$; **$P < 0.001$. Analyses adjusted for ad order, location, age, gender, parental status, highest level of educational attainment, number of cigarettes smoked each day, quitting intentions and previous quit attempts.

Table V. Odds ratios for associations between Indigeneity and positive ad ratings (95% confidence intervals)

<table>
<thead>
<tr>
<th>Message Acceptance</th>
<th>Personalized effectiveness</th>
<th>New information</th>
<th>Uncomfortable</th>
<th>Effective</th>
<th>Discuss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alive</td>
<td>2.19 (0.70–6.83)</td>
<td>3.32* (1.64–6.69)</td>
<td>2.96** (1.62–5.40)</td>
<td>2.67* (1.43–4.99)</td>
<td>1.99 (1.00–3.96)</td>
</tr>
<tr>
<td>Anthony</td>
<td>3.13* (1.35–7.25)</td>
<td>2.27 (1.07–4.81)</td>
<td>6.82** (3.77–12.32)</td>
<td>1.80 (0.90–3.62)</td>
<td>0.95 (0.47–1.93)</td>
</tr>
<tr>
<td>Bronchoscopy</td>
<td>0.62 (0.18–2.08)</td>
<td>1.52 (0.62–3.74)</td>
<td>1.78 (0.87–3.65)</td>
<td>1.34 (0.67–2.69)</td>
<td>0.55 (0.25–1.22)</td>
</tr>
<tr>
<td>Which disease</td>
<td>1.23 (0.64–2.36)</td>
<td>4.73** (2.64–8.46)</td>
<td>6.75** (3.63–12.56)</td>
<td>4.30** (2.35–7.90)</td>
<td>3.18** (1.82–5.56)</td>
</tr>
<tr>
<td>Billy</td>
<td>8.21** (3.67–18.41)</td>
<td>5.90** (3.25–10.72)</td>
<td>13.96** (7.16–27.21)</td>
<td>4.83** (2.73–8.54)</td>
<td>5.43** (2.81–10.48)</td>
</tr>
<tr>
<td>Amputation</td>
<td>1.60 (0.72–3.55)</td>
<td>2.37* (1.25–4.51)</td>
<td>4.38** (2.39–8.05)</td>
<td>2.35* (1.24–4.45)</td>
<td>1.83 (0.92–3.60)</td>
</tr>
<tr>
<td>Leave behind</td>
<td>0.71 (0.31–1.61)</td>
<td>1.08 (0.54–2.17)</td>
<td>3.18** (1.82–5.56)</td>
<td>1.01 (0.57–1.77)</td>
<td>0.72 (0.38–1.38)</td>
</tr>
<tr>
<td>Bubblewrap</td>
<td>0.43 (0.15–1.18)</td>
<td>1.43 (0.76–2.70)</td>
<td>1.79 (1.01–3.18)</td>
<td>2.03 (1.15–3.58)</td>
<td>0.56 (0.28–1.11)</td>
</tr>
<tr>
<td>Family time</td>
<td>1.61 (0.88–2.92)</td>
<td>4.13** (2.32–7.35)</td>
<td>4.45** (2.55–7.79)</td>
<td>3.64** (1.90–6.99)</td>
<td>2.40 (1.42–4.03)</td>
</tr>
<tr>
<td>Ronaldo</td>
<td>1.14 (0.51–2.54)</td>
<td>1.60 (0.81–3.17)</td>
<td>4.08** (2.14–7.79)</td>
<td>1.33 (0.75–2.37)</td>
<td>1.20 (0.61–2.33)</td>
</tr>
</tbody>
</table>
others were offended by the humour and described the ad as silly or patronizing. Some participants mentioned that the ad did nothing to encourage them to quit smoking.

Participants described Amputation as disgusting. The image of the foot was suggested to leave a lasting impression amongst some, particularly among the Indigenous participants: ‘I will never forget that image’. (RIM18-25). In particular, the ad affected young males who played for their local football team, who disliked the thought of never being able to play again. The message seemed to be taken much more seriously within the Indigenous groups, often a result of knowing people who had gangrene.

Responses to Leave behind were similar across all the groups. The ad was often described as sad. Some felt that the ad was telling them if they did not want to quit smoking for themselves, they should at least consider quitting for their family: ‘Think of the people who will miss you’. (AIF18-25). It was common for parents to describe feeling selfish after watching this ad.

The reactions to Bubblewrap were mixed. Some participants liked the metaphor and felt that it conveyed an important message. The groups understood that emphysema was irreversible and that all smokers were likely to have it, while others were unfamiliar with emphysema, impeding comprehension. Similar to Alive, participants appreciated that this ad was not specific to any gender or ethnicity: ‘All smokers, we’ve all got lungs!’ (RnIM18-28).

It was common for participants to react to ‘Family time’ by describing this ad as ineffective, especially among the men and those without children. It was regarded as bland and lacking urgency.

Participants across all the groups described Ronaldo as disturbing, sad, confronting or powerful: ‘Shocking, good and powerful. This is what...’

---

**Fig. 1.** Frequency of ads selected by participants as most likely to make them feel like quitting smoking by Indigenous and non-Indigenous smokers. Note: n = 293. Significant difference between groups: *P < 0.05; **P < 0.01; ***P < 0.001.
smoking does to your body’ (AIF26-40). The sound of Ronaldo’s electrolarynx and the image of the hole in his throat were regarded as strong and lasting aspects of the ad: ‘Seeing the throat is enough to make my skin crawl’. (AIF26-40). This ad was regarded as effective by some respondents because it was a true story: ‘This is real life and a real bloke talking; that’s effective’. (RIM18-25).

There were mixed reactions to the ad that featured Indigenous people, Billy. Some rural Indigenous groups believed that it was important to produce ads with Indigenous people in them as they found them more relatable. Some participants within the non-Indigenous groups felt offended and angered by the ad: ‘It’s not fair that they’re targeting just the Indigenous. It shows that maybe the Indigenous are less smart than non-Indigenous are’. (AnIF18-25). Some participants thought the production quality of the ad was poor.

Discussion

This study aimed to assess whether mainstream ads representative of those typically aired in Australia influence Indigenous smokers to consider quitting and to assess the potential effectiveness of various anti-smoking messages for communicating with Indigenous Australians. It is the first published comprehensive Australian study to examine the impact of a broad range of anti-smoking mass media among this population, which has such a high smoking prevalence.

Indigenous participants tended to give higher ratings to all the mainstream advertisements overall in comparison to non-Indigenous people. However, the ranking of responses to the different ads from both Indigenous and non-Indigenous smokers was very similar, with four of the five ads nominated as most motivating of all ads, the same in both groups (Anthony, Ronaldo, Bronchoscopy and Alive).

Consistent with studies in the general population, the ads that depicted serious diseases through graphic imagery or first-person personal stories were rated highly by Indigenous smokers on personalized effectiveness, general perceptions of ad effectiveness and emotional impact [21–24, 28]. Therefore, widely airing these types of mainstream ads in media channels popular with Indigenous smokers (mainstream and targeted) is likely to increase quitting behaviour, given perceived message effectiveness has previously been shown to predict behavioural intentions [29].

There was a mixed response to the narrative ads, where those that featured an ill person (Anthony and Ronaldo) were seen to have a stronger impact among Indigenous people than the ad featuring the family of the person affected by a smoking-related disease (Leave behind). This was not observed for the non-Indigenous participants. It may be that the ads depicted in the third person are less salient among Indigenous people who all too frequently experience loss of family. Qualitative discussions remarked upon the fact that Anthony was speaking directly to them, reportedly making the ad more powerful. In the case of Ronaldo, Indigenous participants commented on his striking voice, the confronting imagery of the hole in his throat and the fact that this was a real person, all as factors that appeared to have made it an effective ad.

Although the simulation ad (Bubblewrap) was rated lower relative to other ads, the results were consistent with previous Australian research, in that there was no difference in ratings between Indigenous and non-Indigenous participants for this ad [20]. There were also no differences between Indigenous and non-Indigenous participants for Bronchoscopy, which rated highly and was strong graphic in nature. Bronchoscopy was the highest rated ad overall and was considered equally confronting and memorable by the Indigenous groups as it was by the non-Indigenous groups.

Feedback regarding the strong graphic advertisement Amputation has some important implications for practice. Some Indigenous individuals noted that they are used to seeing individuals with gangrene, and therefore, they considered the ad to be serious and to have personal resonance. There may be other specific examples of health effects that are more salient to Indigenous people and further research on this issue is recommended.

Although only included for broad comparison purposes, those advertisements that were more
positive in nature (Family time) or reflective (Which disease) were rated much lower by Indigenous smokers on Personalized effectiveness than the ads that depicted serious diseases through graphic imagery or first-person personal stories, further consistent with studies in the general population [21–24, 28]. However, given only one example of each of these types of ads was included in this study, further research is required to examine if these findings hold for Indigenous smokers ratings’ of more examples of these types of positive and reflective ads. Also, further research may explore why Indigenous smokers reported that they would be more likely to discuss these ads than non-Indigenous smokers, especially in light of growing evidence that health message prompted conversations can affect important campaign outcomes in both positive [30–32] and negative ways [33].

Indigenous smokers were more likely than the non-Indigenous to report that the ads contained ‘New information’, and so it is possible that these ads were less likely to have been previously seen among Indigenous people. This supports the possibility that differences between the effects of these campaigns in the general population compared with the Indigenous population may be, at least in part, due to different levels of ‘meaningful exposure’ to these messages [15]. Unfortunately, the protocol did not include a question asking if each person had viewed the ad before, and so we cannot be sure this was the case. This is an important item to consider including in future research. An analysis of the effects of differences between ads known to have aired widely in South Australia indicated the previously widely aired ads were less likely to provide ‘New information’ but were more likely to be accepted by both groups.

Indigenous participants were more likely to rate the Indigenous-targeted ad (Billy) higher than non-Indigenous participants on all measures, further confirmed by the qualitative feedback. However, the ad received mixed ratings across the outcome measures from Indigenous participants, and they rated other graphic and emotive ads more highly. This finding could be confounded by the fact that the production quality of Billy was not as good as the other ads, but it was the best quality Indigenous ad available at the time of data collection. It is likely that a well-produced strong emotion ad featuring Indigenous people would perform at least as well as, if not better than, the mainstream ads among Indigenous smokers. However, with limited Indigenous-specific messages available and given the finite resources of most public health campaigns, exposure to mainstream strong graphic and emotive first-person narratives about the health effects of smoking are also likely to be highly effective with Indigenous smokers.

Some limitations should be taken into consideration. Firstly, the sample of this study was limited to metropolitan and rural centres and did not sample Indigenous people living in remote communities (which account for approximately 24% of the Indigenous population [3]). While many Indigenous people transit frequently between rural and remote communities, it cannot be assumed that these results would be representative of Indigenous people living in remote communities and further research is warranted. In addition, it is possible that the results are representative of metropolitan and rural Indigenous Australians, but as this study was undertaken with the SA population rather than nationally, further research is required to determine this.

Furthermore, the ads were not rated in the context of an overall campaign but were instead assessed in the controlled environment of a reference group. This method allowed direct comparisons between various types of ads which would not be easily undertaken in the real world setting but creates difficulties in measuring the ads’ ability to be attention–grabbing. In addition, only one Indigenous-targeted advertisement was available at the time of this research and it was of relatively poor quality compared with the other advertisements tested. Furthermore, while the ad clearly stated at the end, ‘Do it for your family! Quit now!’, many believed that the ad focussed on not smoking around children rather than quitting. It is possible that other examples of Indigenous-targeted ads may have been rated higher.

The results of this study, together with the results from the three Australian studies previously published [18–20], have some important implications for...
practice. The findings indicate that mainstream anti-smoking advertisements are likely to be as motivating for Indigenous smokers and that there are very few differences in ‘motivational response’ to emotive mainstream anti-smoking advertisements between Indigenous and non-Indigenous smokers. This study does not, however, provide information on whether there are differences between Indigenous and non-Indigenous groups in terms of meaningful exposure to mainstream anti-smoking messages or in ‘opportunity to sustain long-term cessation’ motivated by exposure to these messages—the other main factors thought to determine differences between campaign effectiveness in advantaged compared with disadvantaged groups [15]. Budgets for producing anti-smoking campaigns and purchasing mass media airtime are often limited and cannot usually be tailored specifically for Indigenous people, so a balance between what will be effective in the population as a whole and Indigenous people needs to be struck. The results of this research highlight that this balance could be easily achieved by using the strong graphic and emotive ads, which are likely to resonate with both Indigenous and non-Indigenous groups.

**Funding**

South Australian Government and Quit Victoria.

**Acknowledgements**

The authors would like to thank Michael Murphy from the Social Research Centre for preparation and management of the reference groups and Scott Wilson and Byron Wright from the Aboriginal Drug and Alcohol Council for their assistance with the groups and recruitment. We also thank Damien Shen and Della Rowley from Drug and Alcohol Services South Australia for advice on sampling, Molly McCarthy for input into research design and Cultural Partners of Australia for their assistance in this research. Statement of review process: This work was endorsed by the Aboriginal Health Council of South Australia Human Research Ethics Committee and the Cancer Council South Australia Human Research Ethics Committee. The authors were cognizant of the National Health and Medical Research Council Guidelines for Ethical Aboriginal and Torres Strait Islander Research and have used these values and ethics to underpin this research (NHMRC, 2003; available at: http://www.nhmrc.gov.au/_files_nhmrc/file/health_ethics/human/conduct/guidelines/e52.pdf). Indigenous people were consulted and engaged throughout all stages of the research.

**Conflict of interest statement**

None declared.

**References**


---

**Appendix A:**

**Anti-smoking advertisement descriptions**

Ads are listed in the first ad presentation order. All ads were approximately 30 s in duration, other than Anthony and Who will you leave behind, which were 45 s.

**Cigarettes are eating you alive (Alive):** Strong graphic health effects

Source: New York City Department of Health and Mental Hygiene and adapted by Cancer Institute NSW


This ad begins with a silhouette of a man with his lungs and airways overlaid. The man lights up a cigarette and breathes in smoke that swirls around in his lungs. A voiceover states ‘Every time you
smoke cigarettes are eating you alive’. A series of graphical images are shown, including an x-ray style image of a man; a heart beating; a healthy lung that deteriorates after years of smoking; damaged mouth, teeth and throat and an image of a brain and blood vessels with the word ‘Stroke’. The voice-over states ‘Smoking eats away at nearly every vital organ and tissue of the body. The heart. The lungs. The mouth, teeth and throat. Even the brain. Cigarettes are eating you alive. Quit smoking today’. No quitline end tag was appeared in this ad. **Anthony**: Narrative health effects, first person
Source: Department of Health UK

A 60-year-old Caucasian man’s head and shoulders is shown close-up as he lies propped up in a hospital bed. He has a nasal tube taped in place. Moving awkwardly, he looks at the camera and speaks in short bursts with a raspy breathless voice, with words in sub-text: ‘They call it throat cancer. They’ve come in and removed my voice box. Before they did this they found out I’d got lung cancer as well. So future plans right now: Alexandra, my oldest is coming over here for a holiday—December the 13th. I will be alive for that’. The screen goes black and the following words are shown in white text: ‘Anthony died 10 days after filming this. He never got to see his daughter’. No quitline end tag was appeared in this ad. **Bronchoscopy**: Strong graphic health effects
Source: Cancer Institute NSW
http://www.youtube.com/watch?v=Kpl6YkRdREc

This ad begins with a repetitive whistling and whooshing sound. Slowly a lung cancer radiograph fills the screen. A doctor stands before it and says: ‘Sometimes you can hear lung cancer in smokers before you can see it’. We cut to an operating theatre, where the doctor feeds a large tube into the mouth of a woman lying on her back. Her torso arches convulsively as she grips the hand of one of his assistants. We watch what he sees—the raw-looking, bubbling and largely blocked internal airway. ‘There’s a whistling noise—it’s the air racing around the lung cancer, almost completely blocking the airway’, he explains. ‘By the time, most lung cancers are discovered, it’s already too late to operate’, he adds, shaking his head. An end tag with the words: ‘No smoker can breathe easily’ and ‘Quitline 137848’, appear on the screen across the image of the doctor. **Which disease**: Humorous health effects
Source: Cancer Institute NSW

This ad focuses on the health consequences depicted on cigarette pack health warnings. It begins with a woman returning a pack of cigarettes to a shopkeeper, saying, ‘Oh, I’d rather not have mouth cancer, can you give me something else?’ The scene cuts to a supermarket with a mother and two kids at the checkout. A young man at the checkout asks the woman: ‘Do you want heart disease or lung cancer?’, while holding up two packs of cigarettes. Next, a man at the petrol station counter is told by the cash register: ‘Take your pick!’, ‘Oh, I’ll just have gangrene …’ he replies. A male voiceover says: ‘You can’t choose which disease you’ll actually get, but if you continue smoking, you’ll almost certainly get one of them’. Finally, we see a young man in a pub buying a pack of cigarettes from a vending machine bearing the sign: Smoking kills Call the Quitline 137 848. He is watched by a young woman to whom he jokes: ‘I knew I’d get emphysema!’ An end tag with the words: ‘Quitline 137848’, appear across the screen.
Billy: Indigenous-targeted: Second-hand smoke health effects
Source: Department of Health and Families, Northern Territory Government
Not available online

We see a close-up of an Indigenous toddler, Billy, asleep on his mother’s chest, sweat running down his face. Cutting to a scene of a remote health clinic, Billy’s mother tells the health worker he has been coughing a lot and she’s worried. His chest wheezes under the stethoscope. In the family car, Billy sits coughing between his parents who are both smoking. Back in the clinic, the voiceover says ‘Don’t make your children smoke’. Billy is now coughing uncontrollably. The ad then cuts to Billy sitting on his father’s knee at home. As he smokes, Billy tries to wave the smoke from his face. Back in the clinic, we see a close-up of the graphic pamphlet: When you smoke tobacco: sickness goes into families lungs and heart (passive smoking). His mother nods as the health worker speaks. When home, she picks up a cigarette pack and throws it angrily away, while the voiceover says: ‘Do it for your family! Quit now!’. A blackened section appears across the bottom third of the screen displaying the Northern Territory Health Services logo and the words ‘Talk to Your Health Centre Now’.

Amputation: Strong graphic health effects
Source: Cancer Institute NSW
http://www.youtube.com/watch?v=yfyhJgVTZ5U

The ad opens in an operating theatre where staff are gowned for surgery. The camera focuses first upon the surgeon and then his unconscious patient; a Caucasian male around 40 years old. The camera pans down the patient’s body and the surgeon says: ‘Every time you inhale tobacco smoke, toxic chemicals go into your bloodstream and travel to every part of your body. That’s why this smoker has gangrene’. As the doctor says ‘gangrene’, we see a swollen blistered foot with toes that are missing or blackened. The surgeon then draws a black line just below the knee indicating where an amputation is going to take place, saying: ‘I want you to think about what’s happening here every time you look at your cigarette pack. Every time’. We then focus on a cigarette pack with an image of the same gangrenous foot, with the text ‘QUITLINE 13QUITwww.quitsa.org.au’.

Who will you leave behind (Leave behind): Narrative health effects, third person
Source: Quit Western Australia

A Caucasian man, approximately 30 years old, begins by addressing the camera from his lounge room: ‘Smoking-related lung cancer is a long, painful way to die’ he says, ‘There’s no other way to describe it—it was absolutely hellish’. We see the photo of an elderly man, the young man’s father. The young man explains ‘I definitely felt like I was tending to Dad as a nurse would I guess. From Dad’s point of view, he was having to allow me to see things and do things that you don’t want to do with your son. And I think that would have been hard for Dad’. The camera then cuts to a photo of his father, this time looking quite ill. The son concludes with: ‘I guess the message is—it’s not all about you. Give up for the people who care about you’. Here, we see a family photo of a beach wedding. ’Give up for the people who are going to miss you’. No quitline end tag appeared in this ad.

Bubblewrap: Simulation of health effects
Source: Quit Victoria
This ad opens with the image of an x-ray of an upper torso with two lung-shaped pieces of plastic bubblewrap superimposed over the chest. A male voice explains: ‘Lungs are made up of millions of tiny air sacs’, as we watch a burning cigarette approach the lung material in close-up. ‘Chemicals in tobacco smoke destroy them’, he says, as the cigarette tip, held by an anonymous hand, repeatedly burns the individual ‘bubbles’ within the wrap, leaving behind numerous sizzling black-rimmed holes. The voiceover says ‘It’s called emphysema, and it’s irreversible. Even if you only smoke low tar cigarettes, chances are, you have emphysema in its early stages. Just about every smoker does’. A graphic image of the badly damaged ‘lungs’ remains. No quitline end tag was used in this ad.

**Family time:** Narrative of positives of quitting

*Source: Quit New Zealand*

http://www.quit.org.nz/file/vids/TQG_Video Diaries_RoseanneAndIeremia_07_Family Time.mpg

A Maori family with four young children is seen playing in a public swimming pool. The mother, Roseanne, says: ‘We didn’t notice the time that we don’t spend with our kids until we stopped smoking. And now that we’ve stopped we realise—oh my gosh, we’ve got all this time!’ She and her husband, Jeremia, explain how they used to juggle smoking before, during and after a turn in the pool, so that one of them remained behind with the kids, but it meant they were rarely all together as a family. Jeremia states there was always ‘Break time! Time for a smoke!’ and Roseanne points out ‘I would make the time for cigarettes—but not anymore!’ The screen fades to black as Roseanne is talking and an end tag with the words: ‘www.quit.org.nz’, ‘For low-cost patches and gum’, ‘Quit’ and ‘Me Mutu’ appear on the screen.

**Ronaldo—Otolaryngologist:** Strong graphic and narrative health effects

*Source: New York City Department of Health and Mental Hygiene*

http://www.geovisiononline.com/socialmarketing/antismoking/ronaldo

The ad shows a doctor sitting in front of Ronaldo—a middle-aged man of Hispanic appearance—and approaching him with a medical scope. The doctor puts on rubber gloves and examines Ronaldo’s nose and throat, and begins to insert a scope into his tracheotomy, while Ronaldo gives a voiceover through an electrolarynx: ‘I got throat cancer at 39 from smoking. That’s how I lost my voice, and why I have a permanent tracheotomy’. The camera withdraws to reveal that the scope has been inserted into the tracheotomy and then mouth. Ronaldo continues: ‘Every twelve weeks I have to see the otolaryngologist to make sure the cancer hasn’t come back. I am always afraid of bad news. I will have to do this for the rest of my life’. The doctor withdraws the scope and pats Ronaldo’s shoulder reassuringly. An end tag with the words: ‘Quitline 137848’ and ‘quit.org.au’, appear on the screen across the image of Ronaldo as Ronaldo mouths ‘Thank you’ to the doctor.