“Some of These Words I Can’t Pronounce”: A Qualitative Exploration of the Readability of Generic and Tailored Self-help Material for Quitting Smoking

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Smoking remains the leading preventable cause of disease and death. A proliferation of health information is available to educate and aid in smoking cessation, a disparity between reading levels of patients and reading estimates of health promotion literature exists. The aim of the study was to adapt computer-tailored feedback reports to different levels of readability, and to meet the needs of smokers from all social backgrounds. Focus groups were used to explore the perception of the adaptations. Results confirmed the importance of producing health promotion literature at an appropriate level of reading. However, it is essential that materials offer information and support using language that can be understood by smokers of all reading levels without being patronizing.

Smoking remains the leading preventable cause of disease and death. This modifiable behavior is the most powerful factor determining whether people live beyond middle age (Department of Health, 1999). While the major health effects of smoking are well known, the list of illnesses caused by smoking continues to expand beyond the widely publicized heart disease, chronic bronchitis, and lung cancer; it is now clear that smoking has the ability to harm nearly every organ of the body (US Department of Health and Human Services, 2004). There is also a growing understanding that diseases related to modifiable behavior and lifestyle choices are the leading causes of death and morbidity (Mokdad, Marks, Stroup, & Gerberding, 2004) and that self-management of these health habits can improve health and life expectancy (Bandura, 2004; Department of Health, 1999. Wanless (2004) focuses on tackling smoking and obesity, both of which cause considerable death and morbidity. To bring about improvements would require

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not only large changes in individual behavior, but also increasing knowledge about the consequences of making the changes. A proliferation of printed health information intended to educate and promote healthy lifestyles requires users to read, understand, and apply it to their lives. However, people “differ in their ability to understand and interpret the consequences of their actions” (Wanless, 2004). In this climate of prevention and personal responsibility, a recent increase in interest in health literacy has raised concerns about the readability of patient information and health promotion literature, and about the proportion of the population attaining adequate literacy to “understand and employ printed material in daily activities at home, at work, and in the community to achieve one’s goals, and to develop one’s knowledge and potential” (OECD, 2000).

**Health Literature and the Prevalence of Low Literacy**

Approximately half of the adults in the United States have reading skills “marginal for meeting specific requirements of adult living” (Kirsch, Jungeblut, Jenkins, & Kolstad, 1993). Similarly, in Britain, 15% to 20% of adults have poor literacy skills (DfEE, 1999), and over half of the adult population has a reading age of 14 or below (DfES, 2003). Moreover, studies using standardized assessment tools (e.g., Rapid Estimate of Adult Literacy in Medicine [REALM] (Murphy, Davis, Long, Jackson, & Decker, 1993) and Test of Functional Health Literacy in Adults (TOFHLA; Parker & Baker, 1995) to measure reading levels of patients in public hospitals, confirmed inadequate literacy for everyday living in large proportions of the population (Williams et al., 1995; Williams, Baker, Honig, Lee, & Nowlan, 1998). In addition, studies that measured the readability of patient information leaflets and promotional material, using standard measures such as Flesch or FOG Index scores, showed average patient reading levels far below the level required for health education materials, indicating a mismatch between the reading ability of the population and the readability of information leaflets (Davis, Crouch, Wills, Miller, & Abdehou, 1990; Dollahite, Thompson, & McNew, 1996; Gabriel & Stephenson, 1998; Payne, Large, Jarrett, & Turner, 2000). This disparity confirmed that there is “a critical need for developing and evaluating patient education materials designed for those with low literacy skills” (Glazer, Kirk, & Bosler, 1996).

Despite increasing interest in adult literacy and tobacco education, Gilbert (2003), assessing the intersection between the two fields identified only 11 studies, few of which investigated the impact of low literacy on smoking cessation, or the readability of smoking cessation education materials. Meade and Byrd (1989) found the mean reading level of self-help booklets for smoking cessation to be Grade 10.5 (age 15/16), while the reading level of 54% of a patient sample was less than Grade 6 (age 12), suggesting a serious disparity between reading levels of patients and reading estimates of smoking literature. Despite these findings,
little attention has been paid to the readability of smoking cessation self-help material.

_Socioeconomic Gradient and Health Inequalities_

Lower level literacy skills are associated with socioeconomic deprivation (OECD, 2000), and with smoking prevalence in manual workers high at 32%, lower literacy among smokers is probable. Self-help material and education programs are intended to increase knowledge and motivate people to change. However, self-help material written at too high a level will limit the extent to which people can undertake the reading and gain the understanding that will enable them to use the information. The association between higher levels of education and the use of self-help materials (Curry, Wagner, & Grothaus, 1991) will continue, perpetuating the socioeconomic gradient in smoking (Jarvis, 1997) and extending and increasing inequality.

In the United Kingdom, the government’s campaign to motivate smokers to quit and to reduce smoking rates is supported by comprehensive information about health risks, and help is available to smokers wanting to quit through National Health Service stop smoking services provided by Primary Care Trusts (Department of Health, 2004). However, only a small proportion of smokers use these services (Bauld, Chesterman, Judge, Pound, & Coleman, 2003), most smokers prefer to quit unaided (Fiore et al., 1990). Self-help materials, if too difficult to read, will remain unused, and smokers remain ignorant of the consequences of their behavior and how to change it. Although improving literacy nationally would be ideal, matching the readability of the materials to the literacy levels of the target population is more realistic.

Over the last decade, computer programs have been developed to tailor information to personal characteristics. These tailored materials have been reported to enhance quit rates over and above standard, untailored materials (Lancaster & Stead, 2005). A recent randomized controlled trial demonstrated significant advantage of a system of tailored advice developed as an adjunct to telephone counseling (Sutton & Gilbert, 2007). Information gathered from the smokers relevant to their smoking behavior is fed into a computer program to generate a feedback report highly tailored to the individual. These reports can also take into account individual features such as level of education and socioeconomic circumstance, so that their content and format can be adapted to an appropriate style of language and interaction. Thus low literacy smokers can receive individually tailored messages matched to their reading levels.

Within the context of a program of development of tailored feedback, we adapted reports to different levels of readability and literacy. The aim was to develop a questionnaire and feedback written in an easy style. We then assessed
in focus groups the extent to which these adaptations met the needs of smokers of various educational levels and social backgrounds.

Method

Development of Feedback and Assessment Material

We consulted literacy experts at the London Language and Literacy Unit, and guidelines produced by the Adult Basic Skills Unit and Plain English Campaign to inform the adaptation and refinement of the feedback material and assessment questionnaire.

The Smoking Behaviour Questionnaire is a research instrument assessing the variables upon which the feedback report is tailored (Sutton & Gilbert, 2007). Using simplified wording and Likert-type scales presented vertically, we adapted the questionnaire to an appropriate level of literacy and readability for smokers of all educational levels. In order to match the reading level of the feedback report to the respondent, we assessed the literacy level and reading ability of the smokers using the Fast Track 20 Questions (The Basic Skills Agency, 2004), a simple screening tool used to identify those whose literacy is below Level 1 of the National Standards for Adult Literacy. We selected questions from this screening tool and created an algorithm for categorizing literacy levels of the respondents, using the amount of daily reading undertaken, the nature of daily reading in terms of newspaper read (i.e., tabloid or broadsheet), and highest qualification. The final questionnaire was piloted with Basic Skills students with a reading age of no more than 14 years. All found it easy to read and complete, and reacted positively to the use of the assessment tool.

The feedback report was adapted to two reading levels, considering the design and appearance, readability, length, layout, font size, and use of color to produce material that would be attractively presented and accessible to smokers in lower socioeconomic groups. The original version was written for a general audience with a clear and undemanding reading level. In the easy reading version, all paragraphs had a Flesch statistic of at least 75, a sans serif 12-point font, recommended by literacy experts (RNIB, 2004; The Basic Skills Agency), and used color for emphasis. We used short sentences and concrete concepts, with no more than one idea per sentence, and also used language appropriate to the culture (i.e., as used in tabloid newspapers) with advice from a tabloid journalist (sample extracts from the two versions of feedback report are given in the Appendix).

Focus Groups

Focus groups are useful to explore the use of everyday language and culture of specific groups, and have been used to evaluate and develop programs of health education and media messages (Gibbs, 1997). We used theoretical sam-
pling, where participants are selected to represent a range of the study population (Kitzinger, 1995), to ensure that the views of adults from different sections of society were captured. Participants and groups were, therefore, typical of the levels of literacy rather than representative of the whole population. The homogeneity of the group was important to encourage free-flowing exchange of views. In order to prevent discomfort arising from disparate socioeconomic levels and to encourage more vocal expression from smokers from all backgrounds, we split groups according to educational level and sex.

All participants were sent examples of the two different versions of the three-page feedback before coming to the group. On arrival, they were given 10 minutes to peruse a selection of generic self-help booklets (e.g., *The Quit Guide to Stopping Smoking* produced by the charity QUIT, and *Smoking and How to Give Up* produced by the British Heart Foundation, 2003) before the discussion began. During the discussion, participants were also given the opportunity to look through the assessment instrument, and complete it if they wished.

A semi-structured interview guided an open-ended discussion to examine the relevance of the current literature and individually tailored feedback to individual situations, and how it could be improved and adapted to be more appropriate to individual levels of understanding. The topic guide led from the general to the specific, addressing attitude and response to health messages in general, the relevance to the participants of current self-help literature for smoking cessation, and their attitude to, and perception of, the tailored feedback.

Four focus groups were conducted with a total of 19 participants, recruited either from the control group of a pilot study using the individually tailored feedback (Gilbert, Nazareth, & Sutton, 2007), or from the general population by a professional recruiter. Each group lasted approximately 90 minutes and, with participants’ permission, was audio-recorded. Participants received an incentive payment of £30. The groups were split by gender and by highest qualification. Groups 1 and 3 were female; Groups 2 and 4 were male. Participants in Groups 1 and 2 included all non-manual or professional occupations and were less likely to read a tabloid newspaper, and participants in Groups 3 and 4 were in manual or non-professional non-manual occupations and more likely to be tabloid newspaper readers. All but one were daily smokers, and the majority were planning to quit within the next 6 months or sooner, two having already quit (Table 1).

**Data Analysis**

The group discussions were transcribed, and the transcripts content analyzed to explore the important issues emerging from the discussions. The transcripts were first read for general impressions and to identify the themes and key points relating to the research question. *A priori* categories were anticipated from the
interview guide, and new topics arising from data were merged with previously
developed categories.

Results

The findings from the groups are summarized under the topic guide headings.

General Media and Generic Self-help Leaflets

All groups opened with general thoughts on advertising and media messages on quitting, and whether these help or prompt smokers to quit. While par-

Table 1

*Characteristics of Focus Group Participants*

<table>
<thead>
<tr>
<th></th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
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</thead>
<tbody>
<tr>
<td>Gender:</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>3</td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>5</td>
<td></td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Mean age</td>
<td>39</td>
<td>26</td>
<td>30</td>
<td>26</td>
</tr>
<tr>
<td>Qualifications</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;=GCSE</td>
<td>6</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>=&gt;A level</td>
<td>5</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tabloid reader</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
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<tr>
<td>Non-manual</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Manual</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
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<tr>
<td>Smoking habits</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daily smoker</td>
<td>5</td>
<td>2</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Current smoker</td>
<td>3(^a)</td>
<td>3</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Planning to quit</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Mean cigarettes per day</td>
<td>20</td>
<td>8</td>
<td>13</td>
<td>15</td>
</tr>
</tbody>
</table>

\(^a\)Two participants in this group had recently quit.
Participants acknowledged the need for information: “People need to be well informed—imagine if there was not any of this and there was no awareness about nicotine replacement therapy or the Quitline,—So you decide to give up and then you do not know how to go about it”, the literature is perceived as “very doctors’ waiting room stuff that ‘basically you are not going to read.’” Smokers want the information presented in a different way, with more graphical presentation, and the feeling that leaflets are not written for the ordinary reader was not confined to the low qualification groups.

They should have more pictures of people inside, have they got peoples stories in here.

Yes, I think they should have diagrams.

I have tried and I can’t. I am just not a great reader.

This one has got words in it I can’t even pronounce. (Group 4)

I don’t think they need to write so much, it doesn’t look inspiring to read. (Group 1)

I think a lot of these leaflets, they baffle you with all the words and chemicals and stuff—I think a lot of it would go over me. (Group 2)

Overall, comments from smokers of all backgrounds confirmed that the self-help literature on smoking is written at too high a level, that it is not the sort of thing that one would sit and study, and that most leaflets would not prompt one to quit or think about quitting.

**Computer-tailored Report Adaptation**

*Presentation and illustration.* Participants were positive about the layout and the way the tailored report was arranged in sections, and emphasized the importance of presentation and the use of color to catch the attention. However, that the feedback would be improved with more use of color, bullet points, and visual aids in the form of charts and diagrams, was very evident in, but not confined to, the lower socioeconomic groups, where participants wanted a more dramatic, straight, “in your face” approach, emphasizing and highlighting the positive benefits.

The bullets are quite good. The different fonts and different colours, that grabs your attention. It is split up quite well into good sections. (Group 2)

I think the colouring of it, the presentation of it and the layout of the text is incredibly important I think for people not to throw it straight in the bin. (Group 1)
Length and font size. Views were mixed on the length of the report, some indicated “maybe it is a bit long” while others considered the feedback was not “long-winded.” However, the emphasis was not on the length, but on the density of the text, with many comments indicating that people do not like reading lengthy prose. A different layout, done much “more punchily,” rather than paragraphs of text, would be preferable, with the information “in a list though, rather than a letter.”

Lower qualified participants confirmed their preference for a larger font, more pictures, and fewer words. They made clear their dislike of reading and of having to concentrate. They preferred the large font to the smaller “because it looks as if you have got less to read there.”

I opened it and I saw all that writing, you know I would—, it would go in the bin. It needs more pictures, it needs to be more, like, more grabbing to you, so that you want to read it.

I think sometimes when this words, words, words, you’re looking at it and it's a bit too much words, you know.

The larger font it makes it look more like somebody has actually written it to you. Bolder, larger.

I would be more inclined to read that than that. As a person who is not a great lover of reading.

(Group 4)

These participants also suggested that professional people might prefer easier reading and an attractive font; “people that read the Daily Mail or The Times would like it in bigger font. They have got professional busy lives and they haven’t got time to spare.” This observation was confirmed by participants in the higher socioeconomic groups.

The constant theme running through all groups was the clear message that good presentation and an attractive layout are of paramount importance. Most people would prefer a larger, more attractive, personal, and friendly font that “grabs your attention a little bit more—is a bit easier on your eyes.”

Style of Writing and Target Audience

Participants, in general, indicated an awareness of the different styles of the two versions of the feedback report, and recognized the target audience. The larger font one is “more for the ordinary man in the street,” while the longer feedback “is a bit more highbrow.” Most participants also agreed that two levels are useful, some stating a preference for the more detailed report: “I think it is great, I do not want to be patronized and have things sent to me in big letters and
simple words.” However, there was some debate over the suitability of the content and style of the report. The main point of concern was the conflict between the style of presentation and layout and the style of writing, with some disagreement over the patronizing tone of the report.

The one I found the least attractive is the large font, in content, not in presentation. It is very clearly an advisory letter with a lot of guidance and is more persuasive, overly persuasive. We have to be careful not to patronize people.

I think it is better to patronize some people than to take the risk of overestimating people's capabilities and send them something that they do not understand. Yes, if your aim is to help people quit smoking, then surely it is better to have something that is slightly below their level than something that they just don’t get.

(Group 1)

Lower qualified participants also suggested, while recognizing themselves as the target group, that the style of writing in the large-font version was unprofessional, and the tone was slightly offensive and tasteless.

You know the geezer—who sits there playing with his phone like that—he is the person who would get the naff one.

If you were doing something where you wanted to look professional, this one looks more professional than this one. I think it is a bit tacky.

(Group 4)

These comments, while emphasizing the need for clarity and attractiveness, and for presenting something that is easy to read, also highlight the importance of maintaining a professional style, with appropriate language to retain credibility through a professional approach. A more journalistic style might be thought of as less serious and commanding less respect, and also somewhat patronizing. Both the layout and presentation, and the style of writing, are important in the presentation of the feedback.

Assessment of Reading Level

On the measures for assessing the reading level, comments were, on the whole, very positive. It was considered that using educational level and daily reading matter to distinguish “is an OK way of doing that.” However, it was also recognized that while “it is a very good idea,” assessment is a difficult task; “it is hard to know when to cut off,” it may not be accurate for everyone, and “obviously some mistakes are going to be made.”
Discussion

The findings from these discussions support previous work showing that many patient information leaflets are too difficult to understand for a large proportion of the population. Groups of less well-qualified people indicated their dislike of reading and their unwillingness to have to concentrate. Reading ability is one of the many additional factors that could be addressed when tailoring self-help materials to an individual, and these results suggest that, with some important reservations, tailoring to literacy level can be acceptable.

Although it was clear that the amount of reading undertaken, and preferences about having to read difficult material and large amounts of text, are a defining characteristic, there was surprising consistency between the groups on the importance of layout and clarity for smokers of all reading levels, and in terms of preferred font size. The majority of participants, regardless of ability, did not want long detailed paragraphs of dense text. While this may be an indication of the amount of effort they are prepared to put into quitting, it also indicates that style is a salient feature of any self-help material. Unless material is written in an attractive manner, the content will not be noticed and assimilated. Comments also suggested that smokers do not want information presented in a journalistic style. The target audience of each version of the feedback was recognized, but the style of writing of the easy reading version was perceived as somewhat “tacky” and unprofessional. Communications perceived as an “expert” approach from a health professional will command more attention and respect.

Given these considerations, tailored communications can address the concerns raised about the readability of patient information and self-help material. While the appropriate cut-off points may be somewhat arbitrary, it is possible to assess reading and educational level by a few short questions, and produce feedback reports that are better matched to the preferred communication style of the recipient. Reports perceived to correspond with reading levels are more likely to receive attention, and in turn, are more likely to lead to behavior change than information leaflets and self-help materials that require too high a level of concentration.

Focus group processes give advantages over individual interviews, and in this study, the dynamic of the group interaction was effective in generating synergy and enthusiasm, encouraging contribution and debate from members. While the format and the topic guide made it easy to identify agreement on certain aspects of the material, the comments indicated good use in this instance of the grouping of similar people who share backgrounds and experiences. The informal format enabled access to viewpoints that may otherwise have not been uncovered, for example a dislike of reading. However, focus groups are not intended to be fully representative of the target population, and the small size of these groups may limit the conclusions. While we attempted to represent the extremes of the
population in both males and females, difficulties in recruiting meant that males in the higher educated group and older smokers were under-represented. Thus, the views expressed in these groups may not be representative of the smoking population, but provide a glimpse of possible reactions to the feedback. Suggested improvements can only be based upon these insights.

Recommendations

Leaflets written to encourage people to change their behavior must be attractive and readable to members of the target population. Personalization and tailoring to the individual is an acceptable method of delivering self-help material. However, pages of dense text, even when personalized and addressing individual issues, will appeal to only a minority. To be more effective, generic booklets and personal feedback should be written with high use of graphics and illustration, with good layout and use of color. Tailored health messages can be improved further by adapting the style of language to an appropriate reading level. However, it is essential that materials offer information and support without being patronizing, and avoid a journalistic style of language used in some newspapers, in order to maintain and convey a credible and professional relationship with the recipient.

Research in progress (Gilbert, Sutton, Nazareth, Morris, & Godfrey, 2008) will assess the effectiveness of this adapted computer-tailored feedback in changing the smoking behavior in a large population. Further research is necessary to develop tailoring systems to match both comprehension level and personal communication style, in order to generate a computer-tailored report that would ensure an optimal reaction from every recipient.

Acknowledgment

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and Human Services, Centers for Disease Control and Prevention. National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health.


Appendix

Example extracts from feedback reports

Original version designed for a general audience

**You have made the decision to quit** in the next 6 months. Congratulations! This is a positive step and you should feel proud of yourself. You may not be ready to quit immediately, but that’s okay. Quitting smoking involves changes in thinking first before you take action, and you need time to plan ahead and be prepared. We suggest that you think carefully about your reasons for smoking, and about when and where you smoke. Then develop a plan that fits in with your lifestyle and routines. When you are fully prepared to carry out your plan, set a quit date, it will help you to make a commitment. Wanting to stop and determination to succeed are important to successful quitting, and we want to help you to increase your desire and determination, to get you well on your way to becoming smoke free.

Easy reading version designed for lower literacy readers

**You have decided to quit in the next 6 months.** Congratulations! You should be proud of yourself. You are not ready to quit right now, but that’s okay. You need time to plan and be prepared before you act. We suggest that you think carefully about why, when and where you smoke. Then work out a plan that fits in with your life and routines. When you are absolutely ready, set a quit date, it will give you something to aim for. Wanting to stop is important. We will help you to really want to quit and be determined to succeed, to get you well on your way to becoming smoke free.