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kicking bad habits

Using Information to Promote Healthy Behaviours

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Kicking Bad Habits: How can the NHS help us become healthier?

Individual responsibility for health and self-care are key themes in recent health policy documents in England. The Wanless review of health care funding (2002) showed that public engagement with health could help to reduce health care costs. Choosing Health (2004) looked at how information, services, retailers and marketers could make healthy lifestyles 'an easier option' for people. Our Health, Our Care, Our Say (2006) explored the future of health and social care based on an assumption of individuals managing their health and health care. These policies are based on a number of ideas:

- individuals should take greater responsibility for their health care
- individuals should adopt healthier behaviours to avoid ill-health in later life
- if individuals do change their behaviours, the hope is that better health will reduce future health costs.

For the NHS and health practitioners working within it the challenge is how to support people to adopt healthier behaviours and avoid risky ones. Much of the published material on models of individual behaviour and change is based on theory rather than practice, and there is little consensus on the elements of successful interventions.

This programme explores both the theory and practice of behaviour change interventions and tries to answer the questions:

- what interventions are effective in encouraging healthy behaviour?
- how can the NHS help people become healthier?

During 2007 and 2008 the King's Fund will publish a series of papers on:

- the impact of financial incentives
- the effectiveness of targeting low socio-economic groups
- the role of information-led strategies
- the impact of personal skills, capabilities and confidence to change
- strategies for identifying and targeting interventions.

These papers will be of interest to policy-makers, academics, commissioners and practitioners concerned with supporting behaviour change and securing future health improvements.

We will be inviting comments on these papers on our website, and will be holding a series of seminars to discuss our findings. These will feed in to a final report to be published in late 2008.

To get updates on the Kicking Bad Habits programme of work, email your name, job title and organisation to: kickingbadhabits@kingsfund.org.uk

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This paper, *Using Information to Promote Healthy Behaviours*, considers what theory can tell us about the role of information in behaviour change programmes that target diet, smoking, drinking, drug use and safe sex behaviours, and reviews selected evidence of interventions working in practice. Effective campaigns must provoke close scrutiny of their message, using content from a trusted source that captures the target audience's attention. High levels of exposure are needed to provoke change and the most effective messages will impact on social norms. But it is difficult for information alone to impact on complex and habitual lifestyle behaviours, campaigns that couple information with other services are more likely to bring sustained changes in behaviour.

Introduction

Since the nineteenth century, messages on posters, the radio and more recently television and the internet have been used to educate the public and persuade them to live a healthy life. In 2005/6 the government spent more than £30 million on advertising campaigns to stop people smoking, £4.4 million on drug prevention campaigns, and nearly £1 million on the '5 a day' campaign to promote healthy eating (Hansard 2007). The government also recently announced a £75 million marketing programme to encourage children to exercise and eat healthily (HM Government 2008). If spending plans are anything to go by, information seems to have a key role to play in the government's health promotion strategy.

According to Tones and colleagues, there are three models of health education: preventive, radical-political and self-empowerment, each of which describes a different role for information campaigns in the behaviour change process. The preventive model focuses on individuals and the use of education to motivate healthy decisions and encourage people to behave in a healthy way. The radical-political model aims to achieve social and environmental change, focusing on the tobacco producer or the government legislator rather than the individual smoker, for example. The self-empowerment model aims to promote informed choices about health behaviours (Tones *et al* 1990). Information-led strategies could be used in each of these models, but it is information targeted at the individual to educate (preventive) and empower (self-empowerment) on which this paper focuses rather than broader questions of how information can be used to promote good health by influencing corporations or the government (radical-political).

This paper will focus on the one-way transmission of information in leaflets, posters, the internet, radio and broadcast TV. More interactive approaches to information provision such as seminars or one-to-one counselling are not considered. Information is often one part of a broader behaviour change strategy. Our focus on information-only interventions aims to provide one piece of the jigsaw of what works to change behaviours. There are five discussion papers in the Kicking Bad Habits series, each of which focuses on a different aspect of health behaviour change. At the end of this programme the learning from each of these papers, and a series of seminars organised to discuss them will be drawn together in a final report that takes a broader view of what works and why.

The paper will first consider what theory tells us about how information might change diet, smoking, drinking, drug use and safe sex behaviours. It then moves on to review selected studies of behaviour change interventions and highlight some of the factors that are important when developing information-based public health campaigns. The lifestyle behaviours considered in this paper are likely to be influenced by a complex web of factors, they often involve addictive behaviour and may be more difficult to change than other public health behaviours, such as encouraging vaccination against disease.

Theory and history

There is a wide range of literature on health behaviour change that spans social psychology, sociology, anthropology, and persuasion and communication theory. Two groups of theory relate specifically to the role of information in changing behaviour. The first are psychological models that try to explain how and why people change their health behaviour. The second stem from persuasion and communication theory and explain how a message is transmitted to a receiver and help us to understand how that message can be tailored to best effect. Broader theories such as models of the social determinants of behaviour are not considered here (they are, however, part of a systematic review currently being undertaken by the Medical Research Council).

Over the last century psychological models of behaviour change have evolved from the very simple to the complex. Public health campaigns in the early 20th century were based on a direct model of information transfer that assumed unhealthy behaviours stemmed from a lack of knowledge (Zarcadoolas *et al* 2006). To stop the spread of tuberculosis, signs reading 'don't spit' were posted in factories with no discussion of why workers shouldn't spit or of the benefits of refraining (Zarcadoolas *et al* 2006). These early 'hypodermic' models assumed the public simply needed an 'injection' of information to motivate a change in their behaviour (Tones *et al* 1990). Although such information campaigns still exist, there is now a recognition that health behaviour is complex and is affected by more than purely our level of knowledge. Over the past 50 years more intricate models have been developed to try to explain how we can motivate healthy behaviour change. These models tell us something about the role information can play in behaviour change strategies and how it should be tailored to have maximum effect.

KNOWLEDGE AND BELIEFS

The health belief model was originally developed by Rosenstock (Rosenstock 1966). Under this model, behaviour change requires a state of readiness to act. This state is affected by an individual's perceptions about their personal susceptibility to a particular health condition and whether the consequences are perceived to be serious. Beliefs about the costs and benefits of change dictate the particular action chosen and 'cues to action' trigger change. These might be internal cues, such as developing symptoms, or external cues such as media messages. These factors will impact differently on each individual. Someone in a high state of readiness (who believes, for example, that they are at risk of lung cancer and that their children will suffer if they develop the disease) may need only a small cue to trigger behaviour change. Someone less ready to change who estimates the costs of a change to be high (a young person in a stressful job who eats high-fat food to get through the day) may require a different, stronger cue to action.

Under this model, information campaigns can play a major role in behaviour change. It suggests that they should emphasise personal susceptibility and the seriousness of not making a change and should outline the costs of unhealthy behaviours and the benefits of change. Information can also act as a cue or trigger in those already contemplating change through advertising campaigns that direct people to services or leaflets that provide information on how to be healthier.

SOCIAL NORMS AND CAPABILITIES TO CHANGE

Later models suggest a lesser, or at least different, role for information. They see knowledge as just one motivator of change. Social influence and self efficacy (someone's capacity to change) are also key. The theory of planned behaviour was developed by Azjen in 1985 (Ajzen 1985) and was a development of the earlier theory of reasoned action (Fishbein and Ajzen 1975). Under this model, intentions are the main influence on behaviour. Behavioural intentions are influenced by someone's attitude to a behaviour formed from beliefs about its outcomes (similar to the health belief model) and evaluation of the likelihood of those outcomes occurring. They are also influenced by subjective norms; someone's perception of what others think of as 'normal' and an individual's motivation to comply with these 'norms'. Behavioural control is a third factor that dictates whether intentions to change translate into action. This factor draws on Bandura's concept of self efficacy (Bandura 1986), the idea that individuals can develop capabilities that enable them to change their behaviour. The effort someone puts in to changing, along with the control they have over their behaviour,

affect whether behaviour change is successful. Control might be influenced, for example, by willpower, having time to make the change, or having the opportunity to change (Ajzen 1985).

Under the theory of planned behaviour a successful behaviour change intervention must do more than pass on information on the costs and benefits of a behaviour and inspire a feeling of personal susceptibility. For information to influence behaviour it would also have to tackle perceived normative beliefs. It should make someone believe the healthy behaviour is 'normal'. This might involve, for example, using mass media channels to plant storylines in soap operas, or getting celebrities or likable characters to convey a message making it appear the 'cool' thing to do (a technique Marlboro are famous for using with their 'Marlboro man' cigarette campaign). A successful campaign would also have to try to influence self efficacy, perhaps outlining strategies for coping with withdrawal symptoms or low motivation. Although information is clearly important, other factors may have more influence on subjective norms and self efficacy. For example, the government ban on smoking might have a greater influence on what people perceive to be the 'norm' in terms of smoking behaviour. Motivational (face-to-face) interviewing might have more impact in improving someone's skills to change with an interactive/problem-solving element helping success here. The theory of planned behaviour points to the importance of an information campaign being coupled with other interventions to bring about effective change.

This theory highlights the problem of the 'intention–behaviour gap' (Berry 2004). That is, intentions do not necessarily always translate into action. Without the skills and motivation to change, intentions may not translate into new behaviours.

STAGE IN THE CHANGE PROCESS

Theory also suggests that behaviour change is a staged process and the point at which an individual is along that continuum will impact on the way that information can be used to influence them. The transtheoretical model, developed by Prochaska and DiClemente (Prochaska and DiClemente 1983) more commonly known as the 'stages of change' model introduces the dimension of time. The model describes the different stages individuals go through in the process of changing their behaviour and allows practitioners to tailor interventions to the particular stage at which an individual is currently. The model was developed by looking at smoking behaviour and is particularly effective in explaining this (Glanz *et al* 2005). The following stages make up the change process:

- precontemplation
- contemplation
- action
- maintenance
- relapse.

Individuals may enter or exit the process at any stage and it may also be cyclical, with lapses to previous behaviours.

This theory tells us that information should be tailored to the stage at which the audience is in the change process. So, for example, a campaign that directs viewers to a smoking quit line may be most helpful to those in the contemplation stage (Devlin *et al* 2005), but not to those at the pre-contemplation stage. For someone who has already given up smoking, advice on fighting cravings might be more effective, as they are in the maintenance stage.

MODELS OF MESSAGE TRANSMISSION

The theories above seek to explain what role information can have in the behaviour change process and to give some ideas about how information can be used effectively. Persuasion and communication theories tell us about how messages are transmitted and how to design an effective information strategy. If an information campaign is to be used, how can its message have maximum impact on beliefs and behaviour? Here we briefly review two of the main approaches; the communication-behaviour change model and the elaboration likelihood model.

MESSAGE JOURNEY FROM SOURCE TO DESTINATION

McGuire (McGuire 1989) outlines the inputs and outputs in the process of persuasion in the communication behaviour change model, which is a useful framework when thinking about the design of an information intervention and the issues to consider. The five inputs in the persuasion process are:

- source (who will deliver the message? is there one source or many and are they credible, attractive, interesting?)
- message (what information will be included and how will it be organised?)
- channel (how will the message be transmitted – tv, radio, posters?)
- receiver (who is the message aimed at? what is their personality, literacy, lifestyle?)
- destination (what is the desired outcome of the message – an attitude change or a new behaviour?).

For a message to travel successfully from source to receiver and reach its desired destination, McGuire outlines 12 'output' stages that need to occur in response to these inputs. Each of these responses must occur before an individual can move on to the next stage:

- exposure to the message
- attending to (notice of the message)
- liking and becoming interested in it
- comprehending it
- skill acquisition (learning how to respond to it)
- yield to the message (attitude change)
- memory storage of content and/or agreement
- information search and retrieval (be able to recollect the message)
- deciding on the basis of retrieval
- behaving in accord with decision
- reinforcement of desired acts.

This framework shows the complexity of the process of persuasion and also highlights the fact that someone developing an information campaign needs to consider the journey of a message from source to destination. Each input is important. A well-designed message will have no impact, for example, if transmitted via the wrong channel.

INFORMATION PROCESSING

The elaboration likelihood model (ELM) (Petty and Cacioppo 1986) is one of the major theories of persuasion. Under this model, persuasion depends on the level of scrutiny given to a message. The level of scrutiny falls along a continuum from close scrutiny, or 'central processing', which involves examining an argument closely, to 'peripheral processing' whereby short-cut cues are used to understand a message. The level of scrutiny and processing depends on motivation; those who are less motivated use peripheral cues that lead to 'less stable' attitude changes, which are less likely to lead to behaviour change; those who are well motivated, undertake

central processing, which is more likely to lead to sustained changes in behaviour (Crano and Prislin 2006). Many messages lead to both central and peripheral processing operating at once. This theory implies that information campaigns should seek to provoke central processing of their message. A campaign fronted by a celebrity may provoke interest and, through peripheral processing, lead the viewer to understand the message; however, to change habitual behaviours and bring about long-lasting change, a message has to provoke deeper thought.

Review of the theoretical literature has told us something about the routes through which information can try to influence behaviour, and the issues to consider when constructing an effective campaign. But how effective is information in changing behaviour? The next section of this paper looks at evidence on the impact of public health information on habitual lifestyle behaviours.

Evidence

Many studies have tested the impact of information on health behaviour. Interventions range from posters, leaflets, websites and TV adverts to storylines in soap operas, computerised tailored tools and personalised letters or information portals. This section of the paper does not undertake a systematic review of the literature on information and its impact on behaviour, but rather highlights key messages from research in this area. We searched for literature on the use of information to provoke changes in lifestyle behaviours such as diet, exercise, smoking, drug use, and sexual behaviour. We looked at review-level studies and some evaluations of individual interventions along with policy documents, and comment and analysis pieces on developments in public health information. Our scoping review highlights some broad conclusions about the importance of *who* effective messages come from, *what* they contain and *how* they are transmitted.

WHO: THE SOURCE

With the proliferation of health information on the internet and television, it is becoming increasingly difficult to know when a source can be trusted. The government is trying to address this problem by developing a scheme to accredit quality providers of health care information (Department of Health 2008). However, this scheme will mainly focus on illness information and does not apply to a large part of the health promotion information people see on a day- to-day basis.

Official sources or others endorsed by a government kite mark will not necessarily secure the public trust, connecting messages to a government source may in some cases have a negative effect. The *Choosing Health* White Paper concedes that messages coming from government can seem 'preachy, boring and too much like hard work' (Department of Health 2004). Sometimes organisations try to distance their message from its true official source. NHS North West has chosen to deliver their public health programme, a regional social marketing campaign, through an independent community interest organisation, as they feel that the confidence in government messages is low (Mooney 2007).

Consistent messages from multiple sources may have more impact. The Department of Health commissioned the British Heart Foundation, Cancer Research UK and Age Concern to run campaigns giving the same message from a number of angles. Similarly the 5 a day campaign was partnered with industry so that the message came from government, supermarkets and others in an effort to increase its impact (Department of Health 2004).

WHAT: MESSAGE CONTENT

Research suggests it is easier to deliver simple messages, although it is unclear whether these are more effective than more complex information campaigns. The Health Education Population Survey for Scotland is a nationally representative survey carried out twice a year to monitor changes in knowledge, attitudes and motivation to change health-related behaviour (NHS Health Scotland 2004). It found that between 1996 and 2003, the number of people aware that five portions is the recommended amount of fruit and vegetables to consume each day increased from 19 per cent to 59 per cent. The numbers aware of the recommended level of weekly alcohol consumption was lower, at 9 per cent in 1996 rising to 21 per cent in 2003. Although both areas have been subject to public health information campaigns, the authors felt the variety of ways in which the alcohol guideline had been presented (weekly limit, daily units, recommended number of alcohol-free days) may have contributed to lower awareness levels for this message, especially initially. Getting people to remember the simple '5 a day' message seems to have been easier, although more than 40 per cent of the population were still not aware of the message, and it is not clear what contribution this simple message has made to fruit and vegetable consumption in Scotland.

The way a message conveys facts is important, and changes in the way a message is worded can alter its impact. Low-risk behaviours such as preventive behaviours may be more effective if promoted using a 'gain frame', which describes the benefits of a desired action – for example, promoting healthy eating by saying it will help you to live longer. Devos-Comby and Salvoey found a number of studies showing that messages promoting sunscreen use were more effective when phrased using a gain frame. Higher risk behaviours such as encouraging people to be screened for a particular disease (where there is a risk they may find out they have a particular disease) may be best presented in 'loss frames', which emphasise the negative consequences of not performing a particular action. Mammography and breast examination campaigns have had more impact when phrased using a loss frame (Devos-Comby and Salovey 2002). There is also evidence from clinical settings that presenting risk information as a 'relative' risk (for example, 'you are X per cent less likely to get Y if you take Z') rather than an absolute risk (for example, 'you have an X per cent chance of getting Y') is more persuasive (Edwards *et al* 2001). However, none of these studies have looked at the presentation of risk information to change complex lifestyle behaviours.

If information is to engage the viewer a message that elicits some kind of emotion may have more impact. In some populations, messages that present unusual content can be more effective than those that plainly and unemotionally state facts. Farrelly and colleagues found a number of studies showing that appeals using fear can impact on young people's attitudes towards smoking (Farrelly *et al* 2003). A review of reviews of mass media campaigns aimed at reducing levels of smoking found one control study where a group exposed to a provocative mass media campaign changed their smoking behaviour more than a control who did not see the campaign (Naidoo *et al* 2004). Sensation seekers seem more susceptible to high -emotion messages, and sensation seeking as a personality trait is a strong predictor of drug and alcohol use (Stephenson and Palmgreen 2001). In a laboratory experiment that showed different anti-marijuana messages to students and recorded their reactions, Stephenson and Palmgreen found high-sensation messages encouraged intense cognitive processing among sensation seekers (Stephenson and Palmgreen 2001).

However, these 'emotional appeals' may have more impact on attitudes than on actual behaviour. Hastings and colleagues conclude that fear appeals demonstrate less impact in real world social marketing campaigns than in psychological experiments, possibly due

to subjects having forced exposure to the material in experiments, sample groups that often consist of students, and measurement of short-term consequences (Hastings *et al* 2004). For some behaviours, use of fear appears ineffective, for example, a meta-analysis of interventions to prevent HIV by Albarracin showed it was an ineffective strategy in HIV prevention (Albarracin *et al* 2005). In some cases fear may even have a negative effect on behaviour. One study found by Devos-Comby and Salovey showed that the use of a grim reaper advert in Australia actually reduced safe sexual behaviour; the authors felt this might be because the advert made contracting AIDs look inevitable, triggering denial in viewers (Devos-Comby and Salovey 2002).

HOW: THE CHANNEL

A message can be conveyed through a number of different channels. In addition to adverts and leaflets, one way in which the mass media can influence health behaviour is through 'entertainment and education strategies' (Sood *et al* 2004) such as introducing health-related storylines into popular TV programmes. They use TV characters to act as role models for behaviour change. This allows a health message to reach large sections of the public who might be difficult to reach by other means. Messages transmitted in television programmes also have the advantage that people talk about TV with their peers, and thus raise and process the issues more closely.

One study assessed the impact of three storylines to promote cardiovascular health that were introduced by the Netherlands Heart Foundation into episodes of the Dutch hospital drama Medisch Centrum West (Bouman *et al* 1998). They spoke to viewers one week after each episode was shown and found that 26 per cent had thought about and reflected on the health message given; 72 per cent said they found a health message given by a TV serial more appealing than a leaflet. And those who had seen the episodes containing health messages were significantly better at correctly answering questions relating to their content than those who hadn't. However, this improved knowledge decreased over time. We have no way of knowing from this study whether those who reflected on the health messages actually acted on them. This study was particularly interested in targeting those on low incomes and so used social marketing principles to identify a channel that was watched by members of the target group. This may be an effective way to get information across to a group that have limited access to the internet, a growing medium for health promotion messages.

Whichever channel an information campaign uses: leaflets, posters or TV storylines, they need high levels of exposure among their audience to be effective. Hornik's review of evaluations of public health campaigns found high exposure levels and messages that provoke changes in social norms to be key elements of effective campaigns (Hornik 2007). A systematic review by the Cochrane Collaboration found two examples of mass media campaigns that were effective in preventing the uptake of smoking among young people: both of these had 'reasonable' levels of exposure over a long period of time (Sowden and Arblaster 1998). Farelley's review of anti-smoking mass media campaigns found substantial levels of exposure were required before a campaign would have an effect (Farrelly *et al* 2003).

Developing a brand that provokes 'loyalty' also seems important (Hastings and McDermott 2006). A review by the Institute of Social Marketing notes that commercial marketeers are moving more and more from one-off 'transactions' to long-term relationships with their customers and that this change would be helpful for practitioners developing public health campaigns (Stead *et al* 2006).

Messages tailored to a particular audience may be more effective. A lack of formative research and appropriate tailoring can result in the wrong message being put across through the wrong channel and money being spent on an ineffective campaign. A review of review-level evidence on teenage pregnancy found that programmes that promote abstinence have no impact in delaying the onset of sexual behaviour (Swann *et al* 2003). This review concludes that for most teenagers, abstinence is not a message that rings true with their lifestyle. Promoting condom use has been found to be a more effective method of reducing teenage pregnancy (Cancer Care Research Centre *et al* 2006). Tailored self-help materials have been shown to be more effective in reducing smoking levels than untailored materials, although the overall effect is still small (Cancer Care Research Centre *et al* 2006). Babor and colleagues reviewed information campaigns that targeted alcohol consumption and found that although universal mass media campaigns aimed at reducing alcohol usage had little impact, those which targeted particular groups, for example, pregnant women, were more effective in changing attitudes (impact on behaviour not clear) (Babor *et al* 2003).

The Nuffield Council for Bioethics point out that there is a risk that mass media campaigns may increase health inequalities as more advantaged social groups have in some studies been shown to respond more to campaigns directed at the population as a whole (Nuffield Council on Bioethics 2007). This again highlights the importance of formative research and targeting.

Overall effectiveness

There are some examples of effective information campaigns. A systematic review for the National Institute for Health and Clinical Excellence (NICE) found good evidence of the effectiveness of mass media campaigns in changing attitudes to smoking, intentions to smoke and preventing the uptake of smoking in young people (Cancer Care Research Centre *et al* 2006). NICE also found good evidence that self-help materials increased smoking quit rates when compared to no intervention, although the effect was likely to be small. If other interventions such as counselling or nicotine replacement therapy were being used then self-help materials gave no additional benefit. They also found evidence that mass media interventions could increase physical activity and promote healthy eating. In one county in Norway, a provocative anti-smoking campaign was run with messages such as 'girls in Norway are stupid because the more we know about the health hazards of smoking the more girls smoke' (Hafstad *et al* 1997). Baseline measures of smoking behaviour in two counties were taken in 1992, then followed up in 1995. Those who didn't smoke in 1992 were less likely to do so in 1995 in the intervention than the control county, and girls in the intervention county who already smoked at baseline were less likely to smoke in 1995 (although the same was not true for boys). This seems to show that an information campaign alone can have a clear impact on smoking behaviour. However, clearly the use of another county as a control group does not provide a perfect comparator as other differences between the counties may contribute to the outcomes.

When information is used as part of a multifaceted intervention the impact is greater (although clearly so is the cost) (Tones *et al* 1990). A systematic review of interventions that promote healthy behaviour in low-income groups found that combining information provision with goal setting was effective in promoting healthy eating and exercise (Michie *et al* 2008). A systematic review conducted for NICE found some good evidence that media campaigns coupled with tobacco control programmes reduced smoking prevalence (Cancer Care Research Centre *et al* 2006). In Montana and New England students exposed to school education programme and a media campaign that focused on correcting social norms about smoking,

influencing young people's views on smoking and improving skills to refuse cigarettes had a 34 per cent smoking rate compared to 41 per cent among those who went through the education programme alone. This suggests media campaigns work well to supplement other interventions and add to their effectiveness (Flynn *et al* 1992).

Isolating the impact of information campaigns is difficult. The Health Development Agency identified a review of 12 mass media campaigns by Hopkins and colleagues that showed a median reduction in tobacco use of 2.4 per cent. Eleven of these campaigns occurred at the same time as changes in the tax on tobacco products, school-based education or community programmes (Naidoo *et al* 2004). Here the impact may have been due to the combination of interventions in place. Another example of this is the Florida 'truth' campaign, which used posters that promoted the idea that those who smoked were being duped by manipulative and profit-seeking tobacco companies. The first 10 months of the campaign saw an 11 per cent decrease in the prevalence of smoking among young people in Florida, and awareness of the campaign's messages was associated with decreased smoking initiation (Sly *et al* 2001). However, during the campaign there was a $0.45 increase in the price of cigarettes in Florida and this may have contributed to reduced smoking rates among young people (Farrelly *et al* 2003). This campaign also included the establishment of youth groups that aimed to challenge and influence behaviours through peer norms (Students Working Against Tobacco SWAT). Thus the impact of the campaign cannot be attributed solely to the media campaign (Farrelly *et al* 2003). Many reviews acknowledge the difficulties in isolating the impact of media campaigns on behaviour and in establishing true control groups to test impact (for example, Bala *et al* 2008, Sowden and Arblaster 2008)

Discussion

Our review of socio-psychological theories identified three ways in which information might help people become healthier. First, it can provide knowledge and facts that influence people's beliefs about a behaviour and the outcomes of change. Second, it may influence perceptions of social norms, making healthy behaviour appear the 'normal' thing to do, Third, it may impact on someone's ability to change, providing information that gives people the capabilities to change. Messages should be tailored to the stage an individual is at in the change process, and persuasion theory tells us that a message which provokes deep processing should have maximum impact. Communication theories suggest that each stage of the process of message transmission from source to destination should be considered when designing a campaign and adapted to the individual and behaviour to be targeted.

There are examples of mass media campaigns impacting on smoking behaviour, diet and exercise, although effects are small and generally information seems to have more impact on knowledge and beliefs than on actual behaviour. This is in line with theory – while increasing knowledge is an important part of change, injecting someone with facts will not generally impact on their behaviour. In rare circumstances an individual may be unhealthy because they lack the basic facts, but generally the factors influencing their behaviour are more complex.

Some messages that provoke changes in social norms have been effective but exactly which messages do this and how is not clear. Consistent messages from multiple sources may contribute to the prevailing norms although the national campaigns that have adopted this approach have no published evaluation data that can demonstrate a link between their campaign and healthier outcomes. Isolating the impact of a national information campaign on individual behaviour from other social and environmental factors is difficult.

Self-help materials that give people the skills needed to give up smoking can be effective, although it seems that for information campaigns to improve efficacy they generally need to be combined with other interventions.

In recent years, public health campaigns have been given new energy by the rise of social marketing, bringing private sector marketing techniques into public health to target and tailor messages and maximise their impact. A purely information-based strategy could be considered 'social advertising' (Stead and Hastings 1997) with social marketing describing a broader strategy that might include other interventions such as face-to-face counselling, exercise classes or discounts on particular goods. The government promoted the use of social marketing in the *Choosing Health* White Paper (Department of Health 2004) and also commissioned a national review on its potential (National Social Marketing Centre 2006). That review suggests that although on its own information can have only a small impact on changing health behaviour, it is a necessary and useful part of a toolkit for promoting better health that should include regulatory action and hands on support. The report concluded the following.

> *The starting point for a fresh approach to prevention is the recognition that simply giving people information and urging them to be healthy does not work. Rather than attempting to sell health, we need to understand why people act as they do and therefore how best to support them. So, alongside providing effective health information and supporting communities and individuals to improve their own health, we need to encourage and release the energy, skills and desire for good health that they already have. This core idea, of starting from where people are and focusing on what support they need to make changes in behaviour, explains the shift that we recommend from an awareness approach to a social marketing strategy.*
>
> (National Social Marketing Centre 2006, p 3)

Although other research has shown that social advertising can be effective in changing 'discrete' behaviours (such as getting a child vaccinated), more complex lifestyle changes may require a combination of education and economic, environmental and organisational influences.

Conclusion

Information clearly has an important role to play in influencing behaviours such as smoking, alcohol consumption, drug use, diet, physical activity and sexual behaviour. There are examples of effective campaigns with provocative messages tailored to capture the attention of their target group. Effective campaigns must come from a trusted source, have content that captures the target audience's attention and, if possible, include messages that impact on social norms. Formative research is needed to choose a source, message and channel for transmission that suits the target audience. High levels of exposure and provoking loyalty to the message will improve their impact. But we need to be clear about the limits of passive information provision. People need more than knowledge to be healthy, they need the skills to change; information campaigns must be coupled with other services and interventions if they are to bring about large changes in often complex and habitual lifestyle behaviours.

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