Cannabis

Can health campaigns make people ill? The iatrogenic potential of population-based cannabis prevention

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In the UK and elsewhere, social marketing is becoming a major feature of health-improvement strategies.[1] Based on marketing techniques developed for commercial sales, social marketing uses imagery (eg television, magazines, internet and billboards) and phrases (eg radio adverts and slogans) specifically aimed at target groups (eg young people), typically to increase their positive health behaviours. Both national organisations and local health services routinely develop such interventions, often with little evidence of specifically how each campaign will affect public health. In general, such campaigns are regarded as potentially beneficial and possibly ineffective, but rarely are they considered dangerous to health. However, with access to powerful media such as the internet, professional eye-catching graphics and demographic targeting techniques unimaginable only a decade ago, such views need reassessing. In this report, we highlight the potential for social marketing campaigns to have negative repercussions, using cannabis prevention as an example.

Since 1998, the National Youth Anti-Drug Media Campaign in the USA has received more than US$1.2 billion of government funds to develop and deliver interventions designed to prevent primarily cannabis use in young people. Through a variety of media resources, it has tried to foster antidrugs attitudes by portraying the negative consequences (eg poor academic achievement) and by using positive peer support, role models and developing drug-refusal skills. However, comprehensive evaluation of the campaign (validated by the US government[2]) found no evidence that exposure to it affected initiation or cessation of cannabis use or antidrugs attitudes. Given previous research on such didactic techniques, it is perhaps not surprising that the campaign failed to achieve positive health changes.[3 4] However, this does not mean that such well-targeted and easily recalled social marketing campaigns achieved no change at all. Importantly, greater exposure to the US anti-drug advertisements was associated with an increase in the belief among young people that their peers used cannabis regularly (ie descriptive normalisation); individual misperceptions of higher drug use prevalence in general and peer populations are strong predictors of intention to use.[5 6]

Other countries have also adopted a similar approach. The UK reclassified cannabis to a lower legal category in 2004 and reaffirmed this position in 2006. In the same year, the UK government committed to a new public education programme to convey the danger of cannabis use. Under the branding of the ''FRANK'' communication campaign, a high profile national television advert (*Brain warehouse*; http://www.brainwarehouse.tv) debuted in the UK. It presented a creative and humorous depiction of purported adverse effects of cannabis linking use with acute paranoia, nausea, affective changes and amotivation. The campaign encouraged viewers to visit the Brain Warehouse website and ''purchase'' replacement brains resistant to the negative effects of cannabis. However, when pressing the appropriate purchase button, visitors were informed that such a ''model'' would never be available, and were directed to the FRANK drug education website. The clear message was anyone can be susceptible to the negative effects of cannabis and that such effects may be permanent.

The state of drug prevention evaluations for young people in the UK is currently very poor,[3] and this is no different for social-marketing campaigns. Although no drug use outcome evaluation of FRANK has been published, experiences in the USA and elsewhere suggest that its prevention benefits will be limited. However, along with normalising drug use, such campaigns may risk an additional negative consequence. By routinely purporting mental dysfunction as a consequence of cannabis (in itself controversial), users (and even ex-users) may begin to believe they are experiencing such effects.[7] Consequently, cannabis users in the UK may suffer amotivation, memory loss or even paranoia, not as a direct result of the drug, but through psychological mechanisms induced through high-profile social-marketing campaigns that effectively ''sell'' such negative effects. Through causal attribution, primary healthcare professionals may also be less likely to explore alternative aetiologies in known substance users. Of course, real adverse phenomena associated with substance use is well documented, but research has shown that exposure of ecstasy users to suggestions of drug-induced brain damage and memory loss is related to their performing worse in psychological tests.[8] Thus, belief can be a significant component in developing ill health (akin to ''worried well'' effects) much as it can be in generating feelings of health through placebo effects.[9] Given that over eight million people in the UK alone have used cannabis, any iatrogenic effects of campaigns in this area alone could have major repercussions for public health.

The suite of tools that public health is now beginning to apply to selling health messages are potentially very powerful. Consumer advertising has successfully sold excess food and alcohol consumption, sedentary lifestyles and unsustainable consumerism, despite many people recognising the costs of such behaviours personally and to society. However, those using them for commercial gain have invested heavily in their development and tested their required efficacy. As governments recognise that pharmaceuticals do not hold the answers to many of the public-health challenges that populations face today, they are increasingly turning to social-marketing techniques. However, such marketing interventions can be seen as cheap interventions not requiring the same research investment and integrity that is put into medicines. For good reasons, few would ever consider releasing new pharmaceuticals without appropriate evidence in advance. Equally, poorly researched social marketing may not just be ineffective, it may actually damage the health of individuals who hear different messages and respond in quite different ways from the ones intended by their commissioners. It is therefore important that new drug-intervention campaigns targeted towards young people incorporate robust evaluation of both positive and negative outcomes, and that existing campaign approaches are reconsidered in light of emerging evidence.

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SPEAKERS' CORNER

When do we know enough to recommend action? The need to be bold but not reckless

Researchers' scientific training instils the need to recognise and explicitly acknowledge the limitations of their findings as the basis for policy recommendations. It is a matter of ethics (being truthful) and our reputations as scientists. When we present our results, we therefore take pains to state the caveats, such as potential biases, lack of statistical significance and uncertain generalisability, which could alter conclusions. ''On the one hand this, but on the other hand that'' rarely provides guidance for practical decisions, however, and policymakers generally tune this out.

My colleagues and I were recently commissioned to make recommendations regarding a large public programme targeting particular health inequalities, which were not narrowing despite years of programme efforts. Our task was to recommend whether/how the programme should change. We reviewed literature, made site visits, and consulted programme staff, key informants, and a community advisory board. Although we have always tried to make our research relevant to policy, this was a different proposition altogether. Neither ''On the one hand…'' nor ''More research is needed...'' would be helpful to the decision-makers, yet more is *un*known than known about the causes and prevention of the health inequalities of concern. It seemed clear that the largely clinical, downstream approaches used to date were not yielding results, but most literature on alternative interventions was methodologically weak. There were biologically plausible hypotheses with some, but not conclusive, supporting evidence, suggesting promising but largely untested alternatives focused at least somewhat more upstream than the existing programme model. Lacking definitive evidence of effective interventions to reduce the health inequalities of concern, how could we responsibly recommend action?

Our thinking evolved while wrestling with this dilemma. Cost was a prime consideration; acting on misguided recommendations could waste scarce resources, and disparities might even widen. At the same time, these potential costs should be weighed against the continuing human and economic costs of the status quo—that is, persistent large disparities in serious health outcomes. This kind of trade-off is rarely considered. Like others,[1 2] we realised that '''gold standard'' evidence of effectiveness from randomised controlled trials is rarely available for upstream interventions targeting root causes of health inequalities such as low educational attainment, poverty and racism, and the disempowerment they foster; only downstream approaches such as medical care methods generally have such evidence to back them.

It is reckless to recommend a direction for which there is no scientific basis, especially if there are well-substantiated alternatives. It is another thing entirely, however, to recommend an approach that has: (1) strong biological plausibility based on current knowledge of relevant causal pathways; (2) some, albeit inconclusive, evidence of effectiveness for the desired purpose, which is at least as strong as evidence supporting existing/alternative approaches; (3) likely feasibility; and (4) a well-documented role in improving other important outcomes (in this case, other related health inequalities). Acquiring solid knowledge about the effectiveness of upstream approaches requires testing them on a large scale in diverse populations and settings, using the most rigorous designs possible, which calls for creativity. We need bold, but not reckless, experiments to test the most promising, plausible, and theoretically sound interventions to reduce health inequalities, and this requires enlisting policymakers. Perhaps the way could be paved by increasing policymakers' understanding of the limitations of the downstream approaches that have predominated for decades, with costs incommensurate with outcomes. Others have struggled with this challenge,[3–5] and hopefully many more will wrestle with it in the future, providing guidance not only for researchers but for those enlightened policymakers who use research to inform their work.

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