Evidence review: social marketing for the prevention and control of communicable disease

Insights into health communication

ECDC TECHNICAL REPORT

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Contents

Abbreviations

CDAD	*Clostridium difficile* associated diarrhoea
EEA	European Economic Area
EFTA	European Free Trade Association
EU	European Union
HCAI	Healthcare associated infection
HCW(s)	Healthcare worker(s)
HIV	Human immunodeficiency virus
ICT	Infection control team
MRSA	Methicillin-resistant *Staphylococcus aureus*
NHS	National health service (United Kingdom)
STI	Sexually transmitted infection
SWOT	Strengths, weaknesses, opportunities and threats

Executive summary

Background: Social marketing is the application of marketing theories and techniques to the planning, implementation, and evaluation of programmes and interventions to influence pro-social voluntary behaviour change in order to improve personal welfare, and the welfare of society.

Objectives: To provide an evidence-based summary of social marketing for the prevention and control of communicable disease, with particular reference to the European context.

Methods: A review of reviews was conducted to examine the international evidence base. An extensive search of databases was carried out to identify relevant English language systematic reviews published from 2000 to 2011. Inclusion criteria were that reviews were systematic, the substantive focus was social marketing, and at least a quarter of included studies related to the prevention and control of communicable diseases. Thematic analysis was used to identify intervention input and output variables and examine their association with measured change in behaviour or behaviour determinants. All individual studies included in the systematic reviews that reported on European interventions for the prevention and control of communicable disease were identified, analysed and described in more detail to provide insight on European-specific good practice.

Findings: Five international systematic reviews and three individual European social marketing interventions were identified for inclusion. A narrative summary of learning from the systematic reviews and individual social marketing interventions described and discussed: conceptual clarity; consumer orientation; context; social marketing mix (product, price, place, promotion); strategic and long-term planning (policy, partnerships); implementation; knowledge and attitudes; behaviour change; social environment change; and changes in health status.

Conclusions: The international evidence base indicates that social marketing can be an effective approach to behaviour change for the prevention and control of communicable disease. The European evidence is limited, but promising, with social marketing principles having been successfully applied in hand hygiene and sexual health interventions. There appears to be a lack of conceptual clarity on what constitutes social marketing, its purpose and scope. Improved understanding and practice through training and efforts to promote shared learning would enhance its utility and effectiveness. Promotion appears to be the best recognised and/or most commonly employed component of the social marketing mix and there is limited recognition of other social marketing techniques and strategies, such as competitive analysis to identify and modify barriers, the role of segmentation to reach priority targets such as disadvantaged groups, and policy in support of social marketing.

Insights for policy and practice: The evidence indicates that audience-informed intervention design and development, partnership-based interventions, and sharing of lessons learnt from previous practice can enhance effectiveness of social marketing for communicable disease prevention and control. Conducting formative research as standard practice improves design and development of interventions and programmes. More emphasis in intervention, design, evaluation on contextual factors, and on all components of the marketing mix (not just promotion) will contribute to future development of policy and practice. More rigorous and extensive process and impact evaluations and detailed reporting of implementation could also make a useful contribution to the future development of policy and practice. It is recommended that greater priority is given to resourcing long-term interventions and programmes, and less on short-term and brief interventions.

Introduction

What is social marketing?

Social marketing is a behaviour science informed approach to promote social change. Social marketing aims to bring about voluntary behaviour change that is sufficiently scalable to bring about wider social or cultural change using marketing techniques and principles [1]. Social marketing differs from commercial marketing in that the goal is to improve individual and societal wellbeing rather than to increase profitability, with the ultimate beneficiary being society or the individual, rather than the organisation carrying out the social marketing activity [2]. One of the most useful definitions is Andreasen's [3]:

'Social marketing is the application of commercial marketing technologies to the analysis, planning, execution and evaluation of programs designed to influence the voluntary behaviour of target audiences in order to improve their personal welfare and that of society.'

A genuine social marketing intervention contains a number of key elements: a consumer orientation, a mutually beneficial exchange and a long-term planning outlook. The social marketer seeks to build a relationship with target 'consumers' or 'audiences' over time. Social marketing draws on, and supports, communications for public health, but also employs other tools. The consumers' input is sought throughout the intervention via formative, process and evaluative research. The framework puts a key emphasis on voluntary behaviour. To facilitate voluntary exchanges, social marketers have to offer people something that they really want and highlight the benefits of change. Marketing techniques such as consumer oriented market research, segmentation and targeting, and the marketing mix are used (see table 1). Social marketing seeks to influence the behaviour not only of individuals, but also of groups, organisations and societies. It is concerned with broader social, cultural, structural and policy influences on health and social behaviour, and can be applied 'upstream' or 'downstream'.

Table 1. Social marketing benchmark criteria

Benchmark	Explanation
1. Behaviour change	Intervention seeks to change behaviour and has specific measurable behavioural objectives.
2. Consumer orientation	Intervention is based on an understanding of consumer experiences, values and needs. Formative research is conducted to identify these. Intervention elements are pre-tested with the target group.
3. Segmentation and targeting	Different segmentation variables are considered when selecting the intervention target group. Intervention strategy is tailored for the selected segment/s.
4. Marketing mix	Intervention considers the best strategic application of the 'marketing mix'. This consists of the four Ps of 'product', 'price', 'place' and 'promotion'. Other Ps might include 'policy change' or 'people' (e.g. training is provided to intervention delivery agents). Interventions which only use the 'promotion' P are social advertising, not social marketing.
5. Exchange	Intervention considers what will motivate people to engage voluntarily with the intervention and offers them something beneficial in return. The offered benefit may be intangible (e.g. personal satisfaction) or tangible (e.g. rewards for participating in the programme and making behavioural changes).
6. Competition	Competing forces to the proposed behaviour change are identified, and the intervention uses strategies that seek to remove or minimise this competition.

Source: Stead et al (2007) [4]

Objectives of the review

The aim of this review is to provide an evidence-based summary of social marketing for the prevention and control of communicable disease. The review includes established, as well as emergent and innovative practice. The review also aims to identify and highlight factors which moderate effectiveness, feasibility and acceptability, with particular, but not exclusive, reference to the European context.

Structure of the review

The report is structured as follows:

- overview of review methodology.
- presentation and discussion of review results.
- European-focused evidence from individual intervention studies on the effectiveness of social marketing for the prevention and control of communicable diseases.
- overview of the international evidence base from systematic literature reviews on social marketing for the prevention and control of communicable diseases.
- summary of conclusions, and insights for communicable disease prevention and control policy and practice.

Methodology

Overview

A literature search was conducted to identify systematic reviews[1] of social marketing interventions for the prevention and control of communicable disease. Individual studies reporting on social marketing interventions focused on the prevention and control of communicable diseases in Europe, were drawn from the included systematic reviews to gain insights that may be specific to the European context. For the purposes of this review, interventions were included that comprised of sufficient benchmarking criteria to be recognisable as a social marketing approach. The minimum inclusion criteria were:

- a measurable behaviour change objective
- use of consumer insight research or audience pre-testing to inform the development of the intervention (see inclusion criteria).

Search strategy

A number of resources were searched to identify relevant systematic reviews. Two academic research interfaces (CSA Illumina and Web of Knowledge), covering 15 databases, were searched using the following: (social marketing OR cause marketing OR non-profit marketing) AND (systematic review OR meta-analysis OR rapid review). Results were limited to English language publications from 2000 onwards. Additionally, three systematic review databases were searched (Cochrane Library, Campbell Collaboration and Centre for Reviews and Dissemination). Finally, a free-text search for social marketing was run in an internal (Institute for Social Marketing) database of communicable disease/behaviour change academic papers.

Inclusion criteria

To be included in this evidence review, systematic reviews had to meet the following inclusion criteria:

- published in English language from 2000 to 2011.
- the substantive focus of the review is social marketing.
- at least a quarter of the studies included in the systematic review relate to the prevention and control of communicable disease i.e. interventions that promote behaviour change or reinforce behaviours that may prevent or control infectious diseases[2].

The following criteria were applied to identify individual European social marketing intervention studies for inclusion:

- evaluation/report of an intervention to promote behaviour change or reinforce behaviours that may prevent or control infectious diseases (as above).
- reported/evaluated intervention(s) took place in Europe (EU Member States and EEA/EFTA countries).
- intervention must report on a measurable behaviour change objective.
- intervention must have evidence of consumer orientation.

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1 'A systematic review attempts to collate all empirical evidence that fits pre-specified eligibility criteria in order to answer a specific research question. It uses explicit, systematic methods that are selected with a view to minimising bias, thus providing more reliable findings from which conclusions can be drawn and decisions made (Antman 1992, Oxman 1993). The key characteristics of a systematic review are:

a clearly stated set of objectives with pre-defined eligibility criteria for studies;

an explicit, reproducible methodology;

a systematic search that attempts to identify all studies that would meet the eligibility criteria;

an assessment of the validity of the findings of the included studies, for example through the assessment of risk of bias; and

a systematic presentation, and synthesis, of the characteristics and findings of the included studies.' [5]

2 This included direct audience focused behaviour change campaigns as well as strategic initiatives. Relevant health behaviours include, but are not restricted to hygiene practices (e.g. hand washing and use of alcohol-based hand sanitizers, respiratory hygiene/cough etiquette, food hygiene, needle/syringe exchange), screening for communicable diseases, medicine regimen adherence, vaccination uptake, use of physical barriers against infection (e.g. condoms, insect repellents etc.), information-seeking and risky sexual behaviours.

Results – individual European social marketing interventions

Fourteen European intervention studies for the prevention/control of communicable disease were identified from the included systematic reviews. Although most of the studies reported on a measurable behaviour change objective, the majority (11 studies) were excluded from the evidence review on the basis that there was no evidence of audience/consumer orientation in the design or implementation of the intervention and thus could not be considered 'social marketing' interventions. Three interventions that were judged to have evidence of audience/consumer orientation were included in the evidence review [6–8]. A brief summary of the intervention and the key findings for each of the three individual studies included in this evidence review are summarised in table 2:

Table 2. Individual European social marketing interventions key findings

Study	Intervention	Key findings
Pittet et al (2000) Effectiveness of a Hospital-wide Programme to Improve Compliance with Hand Hygiene [6]	**Country Setting:** Switzerland **Aim:** To improve hand-hygiene compliance among hospital healthcare workers (HCWs), with special emphasis on bedside, alcohol based hand disinfection. **Summary of intervention:** A3 colour posters emphasising the importance of hand hygiene, particularly hand disinfection, were displayed at 250 strategic locations in the hospital. Seventy different posters were produced in multiple copies, with three to five copies displayed simultaneously throughout the hospital at any given time. Poster subjects included healthcare associated infection (HCAI), cross transmission, hand carriage, hand hygiene, hand disinfection, and hand protection with creams. In addition, there was increased availability of alcohol-based handrub solution across the hospital, and performance feedback.	• Compliance with hand hygiene increased significantly from 48% before the campaign, to 66% three years after the start of the campaign. • Frequency of hand-washing with soap remained stable, but frequency of hand disinfection increased significantly, with an accompanying rise in the volume of alcohol-based handrub used. • Compliance with hand hygiene improved significantly among nurses and nursing assistants, but not among doctors. • Prevalence of HCAI decreased significantly over the same period, from 16.9% to 9.9%. • Methicillin-resistant *Staphylococcus aureus* (MRSA) transmission rates decreased significantly from 2.16 to 0.93 episodes per 10 000 patient-days.
Rao et al (2002) Marketing Hand Hygiene in Hospitals – a Case Study [7].	**Country Setting:** United Kingdom **Aim:** To improve hand-hygiene among hospital HCWs. **Summary of intervention:** Offering a choice of hand decontamination products, including the introduction of a new alcohol-based hand rub, which was made accessible to HCWs by positioning in suitable locations throughout the hospital, and ensuring and maintaining supplies in these locations. Promotional materials, designed by the Infection Control Team (ICT), and interactive educational materials were used to promote hand hygiene. The hospital chief executive wrote to all senior medical, nursing and managerial staff to emphasise the role of hand hygiene in preventing HCAI, and to inform them that he took a serious view of lapses. In the letter he formally empowered the ICT to oversee the implementation of hand hygiene in the hospital.	• Compliance with hand hygiene was not measured, however anecdotal evidence suggested that there was a 'sustained improvement in hand hygiene' following the introduction of the new alcohol based handrub. • There was a reduction in the proportion of hospital-acquired MRSA from an average of nearly 50% before the introduction of handrub to an average of 39% after. • There was a 17.4% reduction in the incidence of *Clostridium difficile* associated diarrhoea (CDAD) following the introduction of handrub, however this was not statistically significant. • The availability of handrub by patient beds was 'widely supported' by hospital staff. • Twelve months after implementation, hand rub was found consistently at the ends of more than 95% of hospital beds and entrances of wards. • The authors noted that 'in many wards, medical and nursing staff themselves started placing handrub on trolleys used to cart drugs and patients' medical records around the ward'.

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Study	Intervention	Key findings
Stephenson et al (2003) A School-Based Randomized Controlled Trial of Peer-Led Sex Education in England [8].	**Country Setting:** United Kingdom **Aim:** To promote young people's sexual health. **Summary of intervention:** School-based peer-led sex education for pupils aged 13–14 years. Peer educators were selected and trained in sexual health issues, classroom management, group facilitation and participatory learning strategies. The sex education programme consisted of three classroom lessons that lasted around one hour. Sessions focused on relationships, contraception and sexually transmitted infections (STIs). Peer educators made use of participatory classroom teaching techniques, including games and small group work, discussions, brainstorming, role-playing and demonstrating how to use condoms. The approach emphasised development of skills for sexual negotiation as well as knowledge about pregnancy, contraception, STIs, and the use of sexual health and contraceptive services.	The article describes and discusses the design of a cluster-randomised trial to compare the intervention with traditional teacher-led sex education (control). The trial was on-going at the time of publication, so no outcomes are presented. However, a subsequent article (Stephenson et al, 2004) reported on outcomes at 18-month follow-up: • Significantly fewer girls in the intervention group than the control group reported intercourse by age 16, but the proportions were similar for boys. • The proportions of pupils reporting unprotected first heterosexual sex did not differ significantly between the intervention and control groups for either boys or girls. • Girls in the intervention group reported fewer unintended pregnancies, although the difference was of borderline significance. • Pupils were more satisfied with peer-led sex education than teacher-led sex education. • 57% of girls and 32% of boys wanted sex education in single-sex groups.

Discussion – individual European social marketing interventions

The evidence review identified only three individual interventions for inclusion. This may indicate a limited utilisation of social marketing approaches for the prevention and control of communicable disease in Europe to date.

The findings from the studies are discussed below under key social marketing input and output variables.

Input variables

Conceptual clarity

The intervention evaluated by Pittet et al [6], and the intervention reported by Stephenson et al [8] were not categorised as 'social marketing' by the study authors, despite the fact that both interventions met two of the key criteria for a social marketing intervention (a measurable behaviour change objective and evidence of consumer orientation). Several interventions that were labelled as 'social marketing' were excluded from this review on the basis that they did not meet these key criteria. This may indicate a lack of conceptual clarity regarding social marketing in the field of communicable disease prevention and control.

Rao et al's [7] article used the term 'societal marketing' to describe their intervention. The authors' understanding of 'societal marketing' was based on the Chartered Institute of Marketing's definition of marketing, and Kotler's [9] definition of social marketing.

Consumer orientation

All three interventions had evidence of consumer orientation. In the intervention evaluated by Pittet et al [6], promotional poster contents were developed in association with collaborative groups of healthcare workers (HCWs) across all wards, and made into cartoon-style messages by an artist. Posters were selected for use during regular meetings with a multi-disciplinary group of HCWs. Each poster featured the name of the ward that proposed the message so that authorship could be recognised hospital-wide, and hospital staff would have a sense of ownership of the campaign [6].

In the intervention reported by Rao et al [7] an informal survey was carried out to inform the selection of an acceptable hand hygiene product. There was a trial to assess user acceptance before the new handrub was approved for use.

In the peer-led sex education intervention, peer educators planned and evaluated a needs assessment exercise with other pupils and discussed their own training needs [8]. They were given the opportunity to experience and develop participatory learning activities and strategies. Peer educators chose the activities and the method of delivery of the sessions [8].

Context

Stephenson et al [8] anticipated that individual school contexts would affect intervention implementation, or schools' involvement in the research, and indeed process evaluation showed that this was the case [10]. Pittet et al [6] acknowledged that the findings of their study may be context specific, noting that 'whether the results and impact of our intervention can be generalised to other health-care institutions needs to be tested'.

Rao et al [7] conducted a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis of the hospital's existing hand hygiene strategy. Through this analysis, they were able to identify specific contextual factors that contributed to the successes and failures of the existing strategy, and to use the information and insight gained from the analysis to develop and inform their new hand hygiene strategy. For example, one of the weaknesses identified in the SWOT analysis was that the infection control team was 'generally perceived as trouble-shooters with little to contribute in the absence of specific problems'. In addition, they identified a 'threat' to be the fact that infection control may be viewed by HCWs and hospital managers as being relatively low priority 'in the context of ever increasing competing priorities in the NHS' (National Health Service) [7].

Social marketing mix

Product

In social marketing, the term 'product' is used to refer to the goal of the intervention, for example adoption of an idea, belief or attitude, or adoption of a one-off or sustained behaviour [11]. Two interventions had the same behavioural product i.e. improved hand hygiene practices among HCWs [6, 7], while the other intervention had an arguably more complex product i.e. adoption of 'safe' sex practices among young people [8]. Several key attributes of the social marketed behaviour product contribute to the likelihood that it will be successfully achieved including: triability, ease, risks, acceptability, and duration [11]. Each of these is discussed in turn.

Products that the target audience can try out before permanent or full adoption are more likely to be successfully adopted. Hand hygiene is a more triable product than safe sex. Healthcare workers would already have been practicing hand hygiene, so the interventions aimed to increase the frequency of a behaviour that the target audience had already tried. In contrast, safe sex is a less triable product. The intervention reported by Stephenson et al [8] did attempt to address this issue by including educational role-play activities and condom demonstrations/practice to allow the students to try out some of the behaviours that contribute to safe sex.

Hand hygiene is arguably an easier behaviour to adopt than safe sex practices. Hand washing with soap and effective use of alcohol-based handrub are both relatively simple procedures, that can be easily learned and do not require particular skill. However, there are a number of potential barriers that could affect the ease with which hand hygiene behaviours are adopted, including time pressures, and limited accessibility of soap/alcohol-based handrub (physical barrier). Both hand hygiene interventions addressed physical barriers (see 'price') [6, 7]. In addition, Rao et al [7] acknowledged that HCWs would struggle to complete their rounds in time if they were required to wash their hands at a sink, thus alcohol-based handrubs were more widely introduced as a time-saving alternative. Pittet et al [6] also acknowledged that using alcohol-based handrub is less time consuming than hand-washing, and state that this was 'probably a factor in influencing compliance, especially in demanding situations'.

Young people need to acquire the knowledge and skills (e.g. negotiation skills) to be able to practice safe sex, which means that it may be a more difficult behaviour to adopt than hand hygiene. As such, the main aspects of the intervention reported by Stephenson et al [8] were activities intended to improve pupils' knowledge about safe sex and to improve their negotiation skills.

Skin damage, such as dryness and cracking due to frequent hand-washing or use of alcohol-based handrubs is a very real concern for HCWs, and the risk of this negative consequence may be a barrier to adoption of these practices. The intervention reported by Rao et al [7] included formative research that revealed that HCWs claimed the alcohol-based handrub used in the hospital caused skin problems. In order to overcome this risk associated with the target behaviour, an alternative alcohol-based handrub including an emollient that reduces skin dryness was identified and introduced, and proved popular among HCWs.

The intervention evaluated by Rao et al [7] explicitly addressed the issue of acceptability of the product. An informal survey was carried out to inform the selection of an acceptable alcohol-based handrub and there was a trial to assess user acceptance before the new handrub was approved for use.

In terms of duration, both behaviour change goals are similar in that they are sustained long-term behaviour changes, rather than one-off or short-term behaviours. Sustained long-term behaviour changes are the most difficult to achieve. Long-term interventions may be more appropriate for this type of behaviour change. Both interventions to improve hand hygiene compliance among HCWs were long term, and were on-going at the time the evaluations were carried out [6, 7]. Pittet et al [6] noted that prior attempts to improve compliance with hand hygiene 'have been associated with, at best, transient improvement'. However, the authors noted that they observed 'a sustained improvement that accompanied an equally sustained intervention'. In contrast, the intervention to promote young people's sexual health was relatively short-term and of limited intensity, with only three hours of contact time between pupils and peer-educators over the course of one school term [10]. The study authors note that with hindsight they may have developed a more intense or extended programme, but acknowledge that the constraints of school priorities and resources may have precluded this.

Price

In social marketing, 'price' refers to the costs that the audience have to bear and barriers they have to overcome to adopt the targeted behaviour(s). Costs/barriers can be psychological, emotional, cultural, practical, financial, physical etc. [11]. Strategies to make the target behaviours 'affordable' did not appear to be widely used in the interventions included in this review of evidence, and none explicitly referred to this issue. However, both interventions to improve hand hygiene compliance among HCWs employed strategies to minimise physical barriers to hand hygiene [6, 7]. Changes were made to the hospital environment in order to improve accessibility to hand hygiene products, for example making alcohol-based handrub more widely available. It is likely that minimising the physical barriers to hand hygiene contributed to the success of both interventions, but it is not possible to determine the contribution of this strategy from other strategies employed by the interventions. More extensive use of pricing strategies, such as exchange of benefits or social norms could contribute to increasing the effectiveness of interventions for the prevention and control of communicable disease, and should be investigated.

Place

In social marketing, 'place' refers to the channels by which behaviour change is promoted, and the places in which the change is supported and encouraged [11]. All three interventions reported their place mix. Both interventions to improve HCW hand hygiene compliance took place exclusively in the workplace [6,7]. It is clear that this is the obvious choice of setting for interventions such as these, as this is the setting where the targeted behaviour change is desired; the location where many of the barriers to behaviour change can be addressed; and it has the additional advantage of being the most convenient location to reach the target audience. Promotional messages are likely to be perceived as more relevant/significant by the target audience when they are in the setting where the targeted behaviour change is desired, and are therefore likely to be more effective. The intervention evaluated by Stephenson et al [10] to promote young people's sexual health was school-based. As well as being the most convenient location to reach the target audience, it is also an appropriate setting for an educational intervention.

In terms of communication channels, the peer-led educational intervention to promote sexual health among young people relied exclusively on interpersonal channels. The study authors report that 'the egalitarian nature of the interaction between young people is believed to allow more opportunity, open communication, and discussion of sexual health issues' than interaction between young people and teachers, and it is believed that peers are considered a more credible source of information than teachers [10]. Both interventions to improve HCW hand hygiene compliance used printed materials such as posters to raise awareness (see 'promotion') and to communicate key messages [6, 7].

Promotion

In social marketing, 'promotion' refers to the means by which behaviour change is promoted to the target audience, which may include, but is not restricted to advertising [11]. Promotion was a major component of the hand hygiene intervention evaluated by Pittet et al [6], and the promotional aspects were well described. The promotional posters and promotional messages used in this campaign were developed by the target audience, and the study authors state that this helped to ensure that they identified strongly with the campaign [6]. Rao et al [7] noted that they created new promotional materials for their intervention as they recognised that the existing promotional materials were 'uninspiring'. They state that the new promotional material was original in its concept and content, and attracted a lot of interest from HCWs.

Strategic and long-term planning

Policy

Only one of the three interventions had a policy component [7]. The formal empowerment of the infection control team with the responsibility for implementation for hand hygiene in the hospital could be considered to be a use of policy to support a behaviour change goal. It is not possible to determine the impact of the implementation of this policy on the effectiveness of the intervention.

Stephenson et al [8] allude to the fact that public policy should be evidence-based. However, they state that the role of randomised trials is debated in the field of sexual health research, and the current popularity of peer-led approaches to health education has 'led some to question the need for rigorous evaluation', which meant that their trial had become 'rather contentious'.

Partnerships

Both interventions to increase HCW hand hygiene compliance were in-house interventions that involved cooperation with staff from various hospital departments, but no partnerships with organisations/individuals outside of the hospital [6, 7]. However, Rao et al [7] noted that one of the senior nurses from the hospital ICT was invited to be on the steering committee of a national hand hygiene campaign. The authors state that her involvement in the group provided credibility to the hospital intervention.

The intervention trial reported by Stephenson et al [8] was conducted by multidisciplinary researchers from two academic institutions, and an external group of practitioners with expertise in peer-led education. The trial also had an independent steering committee with representatives from schools, the Department of Health and the Medical Research Council. The study authors did not comment on the importance of these partnerships in the design, implementation, evaluation or results of the intervention. The University of London provided accreditation for peer-educators, which may have encouraged students to train as peer educators [8].

Output variables

Implementation

Rao et al [7] reported that the evaluated hospital hand hygiene intervention was widely accepted and supported by HCWs. However, the authors reported that there were some unanticipated difficulties in implementing the intervention. Alcohol-based handrub dispensers were removed from patient bedsides by HCWs for cleaning, or by patients themselves to make space for cards etc. The intervention team overcame this problem by introducing bedframe-holders for the dispensers. There was also concern among some HCWs that patients might consume the alcohol-based handrub, and for this reason dispensers were removed from the end of patient beds. The intervention team also successfully overcame this problem by demonstrating to HCWs that this was unlikely. Twelve months after implementation, alcohol-based handrub was found consistently at the ends of more than 95% of hospital beds and entrances of wards [7].

Pittet et al [6] reported that the hospital hand hygiene intervention they evaluated was funded by senior hospital management, with no external source of funding. The authors estimated that the intervention cost less than SFr 380,000 (approx. €306,000), with personnel time the major expense. The intervention is said to have been cost effective from 'a societal perspective' in that it is estimated to have avoided more than 900 healthcare associated infections (HCAI). [6].

Stephenson et al [8] reported that part of the evaluation of the peer-led sex education was extensive process evaluation, in order to help interpret outcome data. The process evaluation results were not reported in detail, however Stephenson et al [10] did report that the results revealed that there was variation in the implementation of peer-led sex education across intervention schools. One school was unable to recruit enough peer-educators, so was unable to implement the intervention. It is reported that similar topics were covered in sex education sessions in both control and intervention schools, but there were significantly more skill-based activities in peer-led sex education classes. Observation of peer-led sex education sessions revealed that important topics such as emergency contraception were sometimes omitted, and therefore the peer-led intervention might not have met the needs of some pupils. Overall, pupils reported greater satisfaction with peer-led sex education than teacher-led sex education. Peer educators were perceived as 'having greater relevant expertise and respect for pupils, holding more similar values about sex, using familiar language, being less moralistic, and making the sessions fun.' [10].

Knowledge and attitudes

Knowledge and attitudes are recognised as significant behavioural determinants. Changes in knowledge and attitudes as a result of the interventions were not reported in detail in the European studies included in this review.

Rao et al [7] stated that as a result of the hospital hand hygiene intervention, there was a 'sustained change in attitude of HCWs towards hand hygiene', although this appears to be based on anecdotal evidence.

Stephenson et al [10] found that pupils in the peer-led sex education group had significantly better knowledge about methods to prevent STIs at follow-up than pupils in the teacher-led education groups. However, there was no difference at follow-up between the intervention and control groups in terms of knowledge about the emergency contraceptive pill, availability of contraception or common STIs, ability to identify local sexual health services, attitudes to condom use or sex, or confidence about discussing contraception or sex with a partner.

Behaviour change

Both hand hygiene interventions appear to have achieved their goal of increasing hand hygiene compliance among HCWs i.e. behaviour change. Pittet et al [6] reported that compliance with hand hygiene had increased significantly from 48% before the intervention to 66% after the intervention. The authors noted that compliance varied between HCWs: compliance increased significantly among nurses and nursing assistants, but did not increase among doctors. The study authors suggested that this may have been due to lower campaign awareness among doctors, but as they did not measure campaign awareness, this is speculative. Rao et al [7] did not measure hand hygiene compliance, but reported that there was anecdotal evidence of 'sustained improvement in hand hygiene'. This is supported by the reductions in the rates of HCAI measured over the intervention period.

In terms of behaviour change, the peer-led sex education intervention reported mixed results in terms of behaviour change [10]. There were positive results for girls, in that significantly fewer girls in the intervention group than the control group reported intercourse by age 16, but there was no significant difference for boys. The proportions of pupils reporting unprotected first heterosexual sex did not differ significantly between the intervention and control groups for either boys or girls. Girls in the intervention group reported fewer unintended pregnancies, although the difference was of borderline significance.

Social environment change

Stephenson et al [8] state that the effectiveness of sex education should not be measured purely in terms of health outcomes, but should also include measures of the quality of sexual relationships, and perhaps the wider impact of the intervention in schools. Indeed, it is important to consider the social and cultural impacts of an intervention.

Rao et al [7] state that their intervention attempts to 'bring about a change in the culture of HCWs, a notoriously difficult task particularly with a mundane concept like hand hygiene'. It could be argued that they were successful in achieving this aim given the anecdotal evidence of improved compliance with hand hygiene, the reduction in rates of HCAI, and the evidence of HCW engagement in the intervention, such as the observation that 'in many wards, medical and nursing staff themselves started placing [the alcohol-based handrub] on trolleys used to cart drugs and patients' medical records around the ward' [7].

Health status

Both hand hygiene studies look at the impact of the intervention on HCAI, and both reported evidence of effectiveness [6,7]. Pittet et al [6] reported that there was a significant decrease in prevalence of HCAI after the intervention, and a significant decrease in Methicillin-resistant *Staphylococcus aureus* (MRSA) transmission rates. The authors state that although the study design 'precludes ascertainment of reduction in infection rates that was attributable to the hand hygiene campaign alone', the campaign was the only preventative measure applied during the study period, providing strong evidence that the reduction was as a direct result of the intervention [6].

Rao et al [7] reported reductions in the rates of hospital-acquired MRSA, and *Clostridium difficile* associated diarrhoea (CDAD) (not statistically significant). The authors estimated that the intervention had saved approximately £208 000 (approx. €243 000) through the prevention of CDAD infections, which led them to conclude that 'hand hygiene is a highly effective and inexpensive way to prevent HCAI [7].

Stephenson et al [10] did not evaluate the peer-led sex education intervention in terms of communicable disease outcomes (i.e. STIs) however, the study did measure rates of unintended pregnancies which could be considered a proxy indicator for the effectiveness of STI prevention. As mentioned earlier, they found that girls who received peer-led education reported fewer unintended pregnancies than girls in the teacher-led education group, although the difference was of borderline significance [10].

Results – international evidence base: systematic reviews

Thirty-four reviews were identified through the search strategy. Ten of these reviews were excluded as they were not systematic (or review methodology was not reported in sufficient detail to determine if systematic methods had been used). Of the remaining 24 systematic reviews, 18 were excluded because social marketing was a minor focus. One of the six remaining systematic reviews was excluded because less than a quarter of its included studies related to the prevention and control of communicable disease. Thus, a final total of five systematic reviews were included in this evidence review [12–16]. The key findings of each of the five systematic reviews included in this evidence review are summarised in table 3:

Table 3. **International systematic reviews: key findings**

Systematic review	Characteristics of included studies	Summary of findings
Luca and Suggs (2010). Strategies for the Social Marketing Mix: A Systematic Review [12].	**Number and type:** Twenty four studies that evaluated 17 social marketing interventions aimed at changing behaviours related to: nutrition; physical activity; diabetes; smoking; STI; HIV; heart disease; and cancer. [Included interventions had at least three of the six Ps of the marketing mix (product, price, place, promotion, policy and partnerships), and met Andreasen's (2002) six social marketing benchmark criteria.] **Countries:** Canada, United Kingdom, United States of America.	The complete social marketing mix (all six Ps) was identifiable in four interventions; all 17 interventions identified their product platform, their place mix component and their promotion strategy; the partnership component was reported in 16 interventions; the price component was reported in 13 interventions; and the policy mix component was reported in four interventions. Most of the interventions reported outcomes from Varcoe's (2004) Social Marketing Effectiveness Framework: Awareness & Engagement (attitude and knowledge) outcomes were reported for 15 interventions; Behaviour Change outcomes were reported for 16 interventions; Social Norms outcomes (normative changes in attitude and behaviour) were reported for six interventions; and Well-being outcomes (using environmental and epidemiological data) were reported for two interventions. The review reports that '*it was difficult to quantifiably link mix strategies with intervention outcomes*' but the authors for 10 of the interventions suggested links between certain mix strategies and the outcomes. The review does not state how many interventions were effective.
Mah et al (2008). Social Marketing Analysis of 20 Years of Hand Hygiene Promotion [13].	**Number and type:** Fifty-three effectiveness evaluations of hand hygiene interventions that contained at least one social marketing benchmark (as defined by the review authors). **Countries:** Australia, Bangladesh, Burkina Faso, Eritrea, France, Hong Kong, Indonesia, Ireland, Israel, Italy, Pakistan, Russia, Switzerland, Thailand, United Arab Emirates, United Kingdom, United States of America.	The interventions were assessed against social marketing benchmark criteria: • 30% of included studies included formative audience research • 9% used social or behavioural theories • 51% used segmentation and audience targeting • 83% used components of the marketing mix • 6% considered the influence of competing behaviours • 13% cultivated relationships with the target audience • 28% provided simple behavioural messages Overall, 66% of the interventions demonstrated a significant improvement in performance. Analysis showed that intervention outcome was not significantly associated with use of any of the social marketing criteria used in the review. The number of social marketing benchmark criteria met was not found to be significantly associated with intervention outcome.

Systematic review	Characteristics of included studies	Summary of findings
Quinn et al (2010). Developing a Common Language for Using Social Marketing: An Analysis of Public Health Literature [14].	**Number and type:** Twenty-three articles describing public health interventions published in the peer-reviewed literature containing the term social marketing in the keywords, title or abstract. **Countries:** Austria, Bolivia, Cambodia, China, Israel, Kenya, Madagascar, Philippines, Vietnam, United Kingdom, United States of America, Zambia.	The interventions were assessed against eight social marketing benchmark criteria (Kotler et al, 2002). The review found that the most described aspects of social marketing in the included interventions were behaviour change and identifying a measurable and observable behaviour. The least described or mentioned aspects were pre-testing and audience segmentation. The review authors suggest that it is possible that many researchers who purport to use social marketing are unaware of the regularly cited definitions of social marketing, and the basic steps in creating a social marketing programme. They note that although several of the included articles used the term social marketing to describe the intervention they reported on, the practices described involved only the delivery of health messages to communities and groups. The review did not investigate the effectiveness of the included interventions.
Wakhisi et al (2011). The Effectiveness of Social Marketing in Reduction of Teenage Pregnancies: A Review of Studies in Developed Countries [15].	**Number and type:** Twelve effectiveness evaluations of social marketing interventions to influence sexual behaviour change (i.e. reduce rate of unintended pregnancies, delay sexual initiation, increase contraceptive use, increase knowledge of contraception and reproductive health, increase self-efficacy to refuse unwanted sex) among teenagers in developed countries. The review focuses on the effectiveness of the interventions in reducing teenage pregnancy. **Countries:** United Kingdom, United States of America.	Nine of the 12 studies reported significant effects on at least one of the outcomes. Long-term interventions were generally more effective than short-term ones for most outcomes. The impact on male participants' sexual behaviour was minimal in most studies. No particular social marketing component or activity was independently associated with effective interventions except for one behavioural outcome (self-efficacy to refuse unwanted sex). Overall, the review found that social marketing appears to be an effective approach to reducing teenage pregnancies and influencing sexual behaviour change, but the evidence is limited to particular outcomes and context, and is therefore inconclusive.
Wei et al (2011) Social Marketing Interventions to Increase HIV/STI Testing Uptake Among Men Who Have Sex With Men and Male-to-Female Transgender Women (Review) [16].	**Number and type:** Three effectiveness evaluations of multi-media social marketing campaigns to increase HIV/STI testing uptake among men who have sex with men in developed countries. [N.B. The review did not identify any studies that included male-to-female transgender women.] **Countries:** Australia, United Kingdom, United States of America.	The review found that multi-media social marketing campaigns had a significant effect on increasing HIV testing uptake among men who have sex with men, but had no effect on increasing uptake of STI testing. Overall, the review authors noted that the evidence was limited, the risk of bias in the included studies was high, and the quality of evidence was low.

Discussion – review of international reviews

Input variables

Conceptual clarity

Three of the systematic reviews examined the evidence for defined behaviour change goals: to increase hand hygiene compliance [13]; to increase HIV/STI testing uptake among men who have sex with men and male-to-female transgender women [16] and to reduce unintended teenage pregnancies [15], while other two systematic reviews assessed public health interventions against social marketing benchmark criteria [12, 14].

All five systematic reviews included social marketing definitions, with three reviews specifically referring to Andreasen's [17] six social marketing benchmark criteria [12, 13, 15]. Wei et al [16] used Maibach's [18] definition of social marketing, while Quinn et al [14] described Kotler et al's [19] tenets of social marketing. The social marketing benchmark criteria described by Mah et al [13] were adopted and modified from several sources [17, 19–22].

Quinn et al's [14] systematic review focuses on conceptual clarity. The review examined the way in which the term 'social marketing' has been used in the public health literature. The authors note that their literature search revealed a 'rather generous use of the term in the professional literature – often with little justification' [14]. Many of the studies in the review that reported using social marketing did not provide sufficient detail about intervention development to determine if a social marketing process was followed, and indeed several interventions that used the term social marketing described interventions that involved only the delivery of health messages to communities/groups. The study authors state that 'it is possible that many researchers who purport to use social marketing are unaware of the regularly cited definitions of social marketing and the basic steps in creating a social marketing program' [14]. They recommend that identifying a common language for the description and design of social marketing interventions would be beneficial to researchers and practitioners interested in social marketing as a behaviour change approach [14].

Consumer orientation

An important aspect of consumer orientation is the use of audience research. This may be based on primary or secondary data to identify audience characteristics and needs, and frequently includes pre-testing of elements of the intervention with a sample of the target audience [13]. Wakhisi et al's [15] systematic review of the effectiveness of social marketing interventions for the reduction of unintended teenage pregnancy found all twelve included interventions were based on the results of formative audience research. Quinn et al [14] state that 17 of the 23 articles included in their systematic review mentioned that formative research had been conducted with the target audience. The authors note that it was not possible to determine if the remaining six articles failed to mention formative research because it had not been carried out, or if it had been omitted from the articles due to publication constraints [14]. It is worth bearing in mind that incomplete reporting can result in interventions that actually meet social marketing benchmark criteria being wrongly classified.

Mah et al [13] reported that only 30% of the hand hygiene interventions analysed in their systematic review employed primary formative audience research, while 59% of interventions relied on secondary formative research i.e. behavioural barriers identified from previous publications. The systematic review authors note that 'although obtaining knowledge from secondary sources is more economical and convenient than conducting primary research, the applicability of insights from secondary sources is context dependent' [13]. They further emphasise the superiority of primary research because it allows interventions 'to be tailored to local needs and realities, thus increasing the effectiveness of the intervention'. However, the review found that intervention outcome was not significantly associated with use of audience research [13].

Audience segmentation can be described as the process of dividing a population into distinct segments based on characteristics that influence their responsiveness to marketing interventions [23]. Quinn et al [14] state audience segmentation is closely related to formative research. Discussing the studies included in their review, they note that 'without information about the formative research process, the authors could not discuss segmentation strategies'. More than half of the studies included in their review described audience segmentation strategies based on formative research [14]. Wakhisi et al [15] stated that in the interventions included in their review, targeting and segmentation was mainly by age and academic level. More than half (51%) of the hand hygiene interventions included in the systematic review by Mah et al [13] employed segmentation and targeting. As was the case for audience research the review found that intervention outcome was not significantly associated with use of segmentation and targeting, although the review authors note that 'program effectiveness can be compromised by targeting a large number of audience segments with potentially divergent perceptions, values, and barriers to change' [13].

Context

One important contextual factor to take into consideration in implementing an intervention is the existence of competition. Wakhisi et al [15] note that all of the intervention studies included in their review addressed competition i.e. competing behaviours and other risk factors that could negatively influence the sexual behaviour of teenagers, including social/peer pressure, communication barriers with parents or teachers, substance misuse, idleness, low self-esteem, and cultural/religious influences.

Mah et al [13] discussed the idea that beliefs about the relative value of hand-washing can act as a source of competition in interventions to increase the use of alcohol-based handrubs for hand hygiene, and could influence the target audience not to use handrubs. In three of the studies included in their review, it was recognised that acceptance of handrubs could be undermined by staff belief that these were inferior to hand-washing, or by an existing staff preference for hand-washing. The study authors state that 'interventions that do not address competing behaviours or messages may lessen their own effectiveness' [13].

Mah et al [13] acknowledge that transfer of best practices from one institution to another may not improve hand hygiene compliance if the local context is not addressed. They state that 'marketing's emphasis on the centrality of audience research to program design addresses the need to understand local context'. The authors go on to emphasise the need of interventions to be based on formative research [13].

Social marketing mix

Wakhisi et al [15] described the marketing mix (product, price, place, promotion, partnerships, policy and personnel/policy) for each of the twelve studies included in their review. The review authors did not link use of components of the marketing mix to effectiveness, except to note that the only intervention that reported a significant effect for self-efficacy to refuse unwanted sex [24] appeared to have a 'relatively intense' marketing mix [15].

Mah et al [13] found that 83% of the interventions included in their social marketing analysis of hand hygiene interventions used components of the marketing mix. All interventions defined target product/behaviour change and used promotional components, and the majority identified consumer 'price' perceptions and targeted price reduction (reduction of barriers to behaviour change). The review found that use of the marketing mix benchmark was not significantly associated with intervention outcome. The authors suggest that the finding may be due to 'study factors' such as small sample size and insufficient statistical power of the review, or that it 'may indicate that the use of the marketing mix is essential but insufficient by itself to change hand hygiene behaviour' [13].

Luca and Suggs [12] explored in detail the marketing mix of the studies included in their review. They defined the complete marketing mix as consisting of six Ps: product, place, price, promotion, partnerships and policy. They found that the complete marketing mix was identifiable in four of the seventeen interventions included in the review. All of the interventions identified their product platform and place mix, while the price mix component was reported in 76% of interventions, and the policy mix component was reported in only 24% of interventions. Promotion was the mix component most thoroughly described in the included interventions [12].

Luca and Suggs [12] note that the 'lack of specific indications about the marketing mix made it difficult to quantifiably link mix strategies with intervention outcomes'. However, they state that in several of the studies included in the review, the authors suggested relationships between certain mix strategies and outcomes. In terms of product, strategies identified as likely to receive a positive response included using a complete product platform (actual, core and augmented products), and strong positioning that considered competition and branding [12]. In terms of price strategies, the following were identified as promising: lowering the price; removing or minimising the inconvenience of adopting the desired behaviour; and providing social and financial support for the target audience to remove barriers. Luca and Suggs [12] also note that increasing access to the product through special community-based events and existing distribution channels, as well as using the internet show promise as place strategies. Their systematic review revealed that certain communication channels were indicated as successful in reaching different audiences and settings, for example: popular media for children, and men who have sex with men. The review also highlighted that branding and experimental marketing can be effective promotion strategies [12].

Strategic and long-term planning

Policy
Luca and Suggs [12] noted that their review uncovered limited evidence on policy development and its implications, making it difficult to assess the effectiveness of policy strategies. They suggest that social marketers should consider the integration of policy component in interventions, and should report their findings [12].

Partnerships
Luca and Suggs [12] noted that the majority of interventions included in their review reported using partnerships that served a wide range of purposes, including: ensuring campaign support; message dissemination and help with promotion; attracting supplementary funds; developing networks to help implement the campaign; providing human and knowledge resources; and gaining insight and support from the community with the aim of generating sustainable behaviour change. The most frequent type of partnership identified was with community-based organisations [12]. The review revealed a promising trend in partnerships. They state that those interventions that reported upstream efforts at partnership building resulted in positive outcomes, and conclude that engaging community-based organisations in the implementation and design of campaigns, partnering with industry and schools, and creasing networks of non-profit and public agencies 'can provide valuable resources for reaching larger audiences and creating necessary infrastructures'. The review authors suggest that better reporting on partnership development is required in order to better understand how partnerships work, and their associated outcomes [12].

Output variables

Implementation

Issues around implementation of social marketing interventions were considered in only one of the systematic reviews included in this evidence review [14]. This may reflect the fact that many of the original studies did not include or report process evaluations, or report in detail on intervention implementation. Or it could alternatively reflect the fact that systematic review authors did not consider this to be an important topic to address.

Quinn et al [14] report that 17 of the 23 studies included in their review discussed intervention implementation, however they provide no further details. They recommend that when reporting on the findings of a social marketing intervention, study authors should 'identify where strategy formation and implementation can be located for studies reporting strictly on outcomes' [14].

Knowledge and attitudes

Only one of the systematic reviews looked at knowledge as an outcome measure [15], while none of the studies considered attitude as an outcome measure. Wakhisi et al [15] reported that eight of the twelve studies included in their review assessed participants' self-reported knowledge of reproductive health and contraceptive use, seven of which reported a significant impact. The review authors did not attempt to link intervention impact on knowledge to behavioural outcomes [15].

Behaviour change

Sixty-six per cent of the interventions included in Mah et al's [13] systematic review reported significantly 'improved performance' in terms of hand hygiene compliance. The authors found that the number of social marketing benchmark criteria used was not significantly associated with behavioural outcome. The study authors question whether this should cast doubt on the value of social marketing for hand hygiene promotion, but conclude that confident assertions cannot be made on the basis of their review due to unfavourable study factors such as the small sample size of the review and the use of weak evaluative designs in the included studies [13].

Wakhisi et al [15] reported on three behavioural outcomes relevant to the prevention and control of communicable disease: delayed sexual initiation; contraceptive use at last sexual intercourse; and self-efficacy to refuse unwanted sex. Ten of the twelve studies included in their review assessed participants' self-reported incidence of sexual initiation, with half reporting significant positive effects among female participants, but only two reporting significant affects among male participants. Nine studies assessed participants' self-reported use of contraception at last sexual intercourse. The review authors note that the four interventions that reported significant effects on this outcome were long-term interventions [15]. Five of the studies included in Wakhisi et al's [15] review assessed participants' self-efficacy to refuse unwanted sex. Only one study reported a significant effect among female participants (choosing not to have sex when pressured), while none of the studies reported any significant effect among males [15].

Overall, Wakhisi et al [15] found that long-term interventions were generally more effective than short-term ones for behavioural outcomes. They acknowledge that although on this basis long-term interventions are indicated, this 'might be a major challenge for such institutions as schools which often have limited time and resources to implement programs', and has important implications for cost-effectiveness [15].

Wei et al's [16] systematic review revealed that multi-media social marketing campaigns had a significant effect on increasing HIV testing uptake among men who have sex with men, but had no effect on increasing uptake of STI testing. The authors were unable to assess the impact of factors such as intervention coverage, intensity, or duration on the effectiveness of social marketing campaigns due to the small number of studies included in their review [16].

Luca and Suggs [12] state that the findings of their review highlight the need for 'more rigorous evaluation designs that test the impact of strategies on outcomes', and further state that 'behavioural outcomes need to be measured and reported'.

Social environment change

Luca and Suggs [12] reported that six of the seventeen interventions included in their review reported social norm outcomes, which they defined as 'normative changes in attitude and behaviour'. Only one of these six studies was related to the prevention and control of communicable disease (STI and family planning) [25]. The study reported that the desired social norm had not been created [25].

Health status

In their review of social marketing interventions to increase HIV/STI testing among men who have sex with men, Wei et al [16] were unable to assess the effect of social marketing interventions on HIV prevalence or incidence as none of the included studies measured health outcomes.

Luca and Suggs [12] reported that only two of the seventeen interventions included in their review reported use of epidemiological data to assess intervention effect in terms of 'well-being'. One of these studies was related to the prevention and control of communicable disease (STIs), and the findings suggest that the intervention may have contributed to a lower incidence of syphilis cases among gay and bisexual men [26].

Although not a communicable disease health status outcome measure, Wakhisi et al [15] reported on unintended pregnancy, which could be considered a proxy indicator for the effectiveness of risk reduction for STIs. Of the seven studies included in the review that reported on this outcome, four reported significant positive intervention effects. All four of these interventions were long-term [15].

Conclusions

- The review found evidence that social marketing interventions can have positive impacts on communicable disease related health; the evidence for social marketed hand hygiene in the hospital setting was for example, noticeably associated with significant decrease in the incidence of HCAI.
- There is limited but promising evidence for the effectiveness of social marketing in the prevention and control of communicable disease in Europe.
- Social marketing principles have been successfully applied in hand hygiene and sexual health interventions in Europe but there is less evidence of their application in other communicable disease areas.
- Within the small number of studies included in the review, there appears to be some lack of conceptual clarity internationally and in Europe regarding social marketing in the field of control and prevention of communicable disease.
- There appears to be limited use of policy support and strategic planning in social marketing interventions for the prevention and control of communicable disease, both at international and European level.
- Promotion is the best described component of the social marketing mix (product, price, place, promotion) in many reports of intervention studies, suggesting promotion is the best recognised and/or most commonly employed component of the marketing mix.
- The review found no evidence of the application of social marketing for the prevention and control of communicable disease amongst disadvantaged and hard to reach groups, despite its potential suitability and applicability.

Insights for communicable disease prevention and control policy and practice

- Social marketing can strengthen health communication based approaches to the prevention and control of communicable disease. For example, the use of social marketing research methods can inform message development and dissemination, and provide a framework for working in partnership.
- More emphasis in intervention design on other components of the marketing mix, especially price, branding, positioning and policy support is recommended to enhance effectiveness.
- Investment of resources in consumer orientation is critical to targeted interventions. Even small scale formative research is helpful in design, implementation and interpretation of evaluation results of social marketing interventions.
- More emphasis on contextual factors in intervention design and planning, are recommended. This can be achieved through greater use of tools and methods such as competitive analysis, process evaluation, participatory research and planning.
- Supplementary social and infrastructure support such as the inclusion of financial incentives for behaviour change; modification of service delivery; and social norms feedback can reduce barriers to, and increase uptake of, behavioural change.
- More extensive application and evaluation of integrating policy support in social marketing intervention is essential to future development of practice and policy.
- Partnership building is an effective strategy for maximising impact. Engaging community-based organisations in the implementation and design of campaigns, partnering with industry and schools, and creating networks of non-profit and public agencies for example, can provide valuable resources for reaching larger audiences and creating necessary infrastructure.
- More extensive and detailed publication of process and impact evaluations would make a useful contribution to the future development of policy and practice. Useful indicators for process evaluation are: acceptability to stakeholders; logistic considerations; unintended consequences; temporal order of adoption and acceptance (or rejection); modification of implementation; and contextual factors moderating impact and reasons for this. Indicators of impact may include measurable social and cultural changes as well as changes in health behaviours, behaviour determinants and health status and evidence on sustainability of change.
- Greater emphasis on long-term social marketing interventions rather than short-term interventions is recommended in light of evidence that they are more effective.
- The social and cultural impact of social marketing interventions, as well as more direct impact on health behaviours and status should be included in impact evaluation.
- More research is needed to optimally match communication methods and channels to target audiences and behaviours, and in particular to identify and understand the benefits and limitations of emerging digital communication technologies.
- Exploratory research on the utility of social marketing techniques such as segmentation and competitive analysis to reach disadvantaged and other population groups of priority to communicable disease public health services is recommended.

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