THE CAMPBELL COLLABORATION

Effects of behaviour change communication strategies embedded in social marketing programs on health behaviours and related health and welfare outcomes in low and middle income countries

Jackie Leslie, Laura Gunn, Josip Car, Lambert Felix, Sarah Knowles, Roy Head, Eva Fleur Riboli-Sasco

Submitted to the Coordinating Group of:

☐	Crime and Justice
☐	Education
	☐ Disability
☒	International Development
	☐ Nutrition
☐	Social Welfare
☐	Other:

Plans to co-register:

☐	No		
☐	Yes	☐ Cochrane	☐ Other
☐	Maybe		

Note: Campbell Collaboration Systematic Review Title Registration Template version date:

24 February 2013
Published 2 May 2013

TITLE OF THE REVIEW

Effects of behaviour change communication strategies embedded in social marketing programs on health behaviours and related health and welfare outcomes in low and middle income countries.

BACKGROUND AND OBJECTIVES

Health related communication strategies have changed significantly in the last 15 years from top down public service announcements to a wider approach which draws on behaviour models and methods used in marketing and adapted for the purposes of "social marketing" (Figueroa et al, 2002).

However, the evidence on the effectiveness of social marketing communication strategies in the health and public health context is not well synthesised and is scattered across a number of subsectors in water and sanitation, family planning, mother and child health, malaria, and epidemic diseases such as HIV, polio, and avian influenza. The effectiveness of the communication strategies reported can also be confounded by issues related to health product or service characteristics such as price, access, and ease of use. These characteristics should be addressed within the context of a social marketing program through the “four Ps”. These consider:

- Place: is the service or the product offered easily available, convenient and accessible?
- Price: is it affordable to the target audience?
- Product: are the attributes and characteristics attractive to or required by the customer or user?
- Promotion: are communication and messaging skills and activities appropriate to the audience targeted and needs of the programme?

The communication strategy would include promotion. The strategy would provide the framework for communication goals and policies which should guide communication plans of activities. These activities might include:

- Administrative mobilisation, public advocacy and public relations;
- Community mobilisation (traditional media, song and dance, road shows, drama, leaflets, posters, home visits);
- Advertising, promotion and incentives using TV, radio, phone messaging, internet, newspapers, leaflets;
- Personal selling and interpersonal communication/counselling as individual and group interventions.

Examples of interventions aimed at specific products and services could include:

- Messages promoting immunisation and increased coverage designed to provide the essential logistical information, combat attitudinal resistances, and employ effective motivations;

- Messages used in family planning for product promotion to users and distributers (doctors, nurses, chemists, both commercial and in government clinics);
- Communications designed for various family planning, immunisation, HIV prevention, malaria bednets or the like for education, cultural change and demand creation and adoption.

There are many lessons to be collated and drawn from experiences across a range of health and public health subsectors, which could be used to guide public health programmes. For example, in spite of the popularity of particular communication strategies, what is the evidence to show they are effective and under what conditions? These conditions may apply to: the extent or effectiveness of the programme's other social marketing work; specific disease or health characteristics; the type of health product or service; the messaging employed; and/or the country or group undertaking the work. Likewise, the methods may only be suited to, or cost effective in, large projects or programmes with sizeable budgets, capacity, or with personnel with specific skills.

The review will seek evidence to inform the following questions:

- Are models of behaviour change commonly used to underpin communication strategies embedded in social marketing programmes?
- What theoretical models of behaviour change have been used to underpin communication strategy interventions? Is there a consensus in which models may be most useful? And what are the potential mediators and moderators of behaviour change?
- Which of the principles and approaches used in communication design and evaluation are the most frequently used? What methods or theories are used for effective messaging, persuasiveness and information processing and message design?
- Are there changes in health behaviours resulting from these approaches?
- What is the evidence of change in health outcomes consequent on behaviour change realised through communication strategies?
- What is the evidence of a change in welfare outcomes consequent on behaviour change and or health outcome change realised through communication strategies?
- What are the potential barriers, mediators and moderators which significantly influence the impact of communication strategies on health behaviour change?
- Where and what are the important evidence gaps that arise in investigating these questions?
- Are there any secondary outcomes associated to particular communication strategies (social, such as stigma, or environmental)?

EXISTING REVIEWS

1. Noar S.M., Palmgreen P., Chabot M., Dobransky N., and Zimmerman R.S., (2009). A 10-year systematic review of HIV/AIDS mass communication campaigns: Have we made progress? J Health Commun. , 14(1):15-42.

2. Sweat, M.D., Denison, J., Kennedy, C., Tedrow, V., and O'Reilly, K. (2012) Effects of condom social marketing on condom use in developing countries: a systematic review and meta-analysis, 1990-2010. Bull World Health Organ. 1;90(8):613-22A.

3. Wei, C., Herrick, A., Raymond, H.F., Anglemyer, A., Gerbase, A., and Noar, S.M. (2011). Social marketing interventions to increase HIV/STI testing uptake among men who have sex with men and male-to-female transgender women. Cochrane Database Syst Rev. (9):CD009337.

4. Moreira, M.T., Smith, L.A., and Foxcroft, D. (2009) Social norms interventions to reduce alcohol misuse in university or college students. Cochrane Database Syst Rev. (3):CD006748.

5. Jepson, R., Harris, F., Platt, S., and Tannahill, C. (2010). The effectiveness of interventions to change six health behaviours: a review of reviews. BMC Public Health.,10(1):538.

6. Bala, M., Strzeszynski, L., and Cahill, K. (2008). Mass media interventions for smoking cessation in adults. Cochrane Database Syst Rev. (1):CD004704.

7. de Silva-Sanigorski, A., Prosser, L., Hegde, S., Gussy, M.G., Calache, H., Boak R, et al. (2012). Community-based, population level interventions for promoting child oral health. Cochrane Database of Systematic Reviews. (Issue 5. Art. No.: CD009837. DOI: 10.1002/14651858.CD009837).

8. Ganann, R., Fitzpatrick-Lewis, D., Ciliska, D., Dobbins, M., Krishnaratne, S., Beyers, J., et al. (2010). Community-based interventions for enhancing access to or consumption of fruit and vegetables (or both) among five to 18-year olds (Protocol). Cochrane Database of Systematic Reviews. Issue 8. Art. No.: CD008644. DOI: 10.1002/14651858.CD008644).

9. Suarez De Balcazar, Y., and Balcazar, F.E. (1991). Child survival in the Third World: a functional analysis of oral rehydration therapy dissemination campaigns. Behaviour Change.8(1):26-34

3ie and Campbell reviews have included:

10. McCoy, S., Padian, N., and Kangwende, R.A., (2009). Behaviour change programs to prevent HIV among women living in low and middle income countries.

11. Cumpston, M., Grilli, R. Hayden, J . and Ramsay, C. (2009) Mass media interventions for influencing the use of health services,

12. Bertrand, J.T., OReilly, K., Denison, J., Anhang, R. and Sweat, M. (2006). Systematic review of the effectiveness of mass communication programs to change HIV/AIDS-related behaviors in developing countries,

13. Free, C., Phillips, G., Felix, L., Gali, L., Patel V., and Edwards P. (2010). The effectiveness of M-health technologies for improving health and health Services: A systematic review protocol BMC Research Notes 2010, 3:250 doi:10.1186/1756-0500-3-250

The focus of previous reviews were very narrow in terms of topics such as condom use(2); HIV/AIDS (1); uptake of HIV/STI testing in men who have sex with men (3); alcohol (4); oral health ; preventive cardiology, sexual health, and substance use(5) or have used a specific type of social marketing, particularly mass media (1, 6)or have restricted their search to high quality study designs such as randomised controlled trials (RCTs) and cluster RCTs (4), or have focused on behaviour change interventions rather than communication and promotion (10). There are a couple of protocols registered with the Cochrane Public Health Group that may overlap to a certain degree with our review but again they are focused on specific topics such as oral health in children (7); dietary behaviour in children and adolescents (8). Moreover, previous reviews have neither explored the theoretical basis nor the mechanism of action of the interventions, whereas we will seek to understand mechanisms of action by exploring potential mediators of behaviour such as knowledge, intention, self-efficacy and attitudes.

DEFINE THE POPULATION

Populations in low and middle income countries of any age, gender, and health condition and either the direct recipient of the intervention, carers and/or those in positions to administer or provide a treatment.

DEFINE THE INTERVENTION

Interventions would include all health programme communication strategies developed using commercial marketing technologies in their analysis, planning, execution, and evaluation and designed to influence voluntary behaviour of target audiences in order to improve their personal welfare and that of society (Andreasen, 1995).

OUTCOMES

Primary outcomes

Health behaviour outcomes:

- Health enhancing behaviour (for example, changes in physical activity, weight control and self-examination, health seeking behaviour including attendance at clinics or campaigns, adoption of health related products and rates of adoption, compliance with treatment)
- Risk-taking behaviour (for example, changes in smoking, sexual practices, alcohol consumption, and hand washing)

Health outcomes

- Prevalence or incidence
- Indicators of morbidity and severity of morbidity
- Indicators of transmission (e.g. change in infected vectors)

Welfare and livelihood outcomes

- Income (change in monetary income), labour productivity (for example, change in working hours, ability to work "standard work day", or to undertake more demanding work (for example heavier work), leisure time (for example same work load, and outcome (in pay or in kind)
- Change in social relations and networks, for example, stigma or community inclusion/exclusion

Secondary Outcomes

These intermediate outcomes will be collected along the causal chain. The secondary outcomes may be reported as part of the results of individual and group studies or may form part of the contextual and background information of the study, and referenced or identified in the eligible studies.

Cognitive outcomes

- Knowledge (for example,. knowledge of risk and realism of risk perception and private and public benefits of the intervention)
- Attitudes and intentions to change
- Self-efficacy (i.e. a person's belief in their capacity to carry out a specific action)

Product or service attributes (mediators and moderators)

- Demand, for example, product design and acceptability (taste, smell, size and so forth) and ease of use
- Supply, for example, accessibility (distance, service frequency, availability), health service/community relations
- Cost or price (monetary and non-monetary factors)

Environmental and physical outcomes

- Water quality, air quality
- Adverse effects or side-effects

STUDY DESIGNS

List the types of studies to be included and excluded (please describe eligible study designs). It is desirable to specify at least three studies which you believe will be eligible for inclusion in the proposed review. Where the review aims to include quantitative and qualitative evidence, specify which of the review questions noted in section 2 will be addressed using each type of evidence.

List of study designs eligible for inclusion in the review

At the individual level:

- Randomised controlled trial
- Quasi-randomised controlled trial
- Non-randomised controlled trial
- Controlled before-and-after study
- Prospective cohort study
- Historically controlled trial
- Cross-sectional study
- Before-and-after comparison propensity scores and covariate matching
- Regression discontinuity
- Difference-in-differences
- Interrupted time series.

At the group level:

- Cluster randomised controlled trial
- Cluster quasi-randomised controlled trial
- Cluster non-randomised controlled trial
- Controlled interrupted time series
- Controlled cohort before-and-after study
- Interrupted time series
- Cohort before and after study
- Ecological cross-sectional study

Eligible studies would include communication strategy interventions and would either need to contain evidence that social marketing principles or equivalent social, economic and technical analysis and planning had been undertaken in programme and product development.

Examples of studies potentially eligible for inclusion in the review

	Author	Country	Topic	Date	Implementers	Intervention	Measure/ matrices	Study design
1.	Sood, S	Indonesia	Maternal and neonatal health	2004	JHU	Print/ TV/ Radio	Use of antenatal care (four or more visits)	post-test non equivalent quasi field experiment with 4 campaign exposure groups
2.	Rogers EM et al	Tanzania	Family planning	1999	JHU	Radio	Contraceptive practice (married women practicing family planning)	pre- and post-test, quasi-experimental design with exposed and non-exposed groups
3.	Shapiro D et al	Cote d'Ivoire (26)	AIDS prevention	2003	PSI/AIMAS	5-month weekly TV soap opera about AIDS-affected family	Condom use at last sexual encounter (men)	Cross-sectional study design comparing exposed individuals versus non-exposed individuals
4.	Kim YM et al	Zimbabwe (19)	Sexual responsibility amongst young people	1996	JHU/ZNFPC	6-month multimedia campaign	Sexually experienced participants who started condom use due to the campaign	Non-randomized pre-post- intervention trial cross-sectional assessment comparing (i) five intervention and two comparison sites and (ii) combining data from all sites.
5.	Storey D et al	Nepal	Family planning	1999	JHU	Radio drama serial	Percentage of individuals who adopted family planning between 1994 and 1997	pre- and post-intervention panel survey

Specify which of the review questions noted in section 2 will be addressed using each type of evidence

The context and supporting information sections of the individual and group studies or the identified and referenced supporting data or studies would be used to provide descriptive statistics on the "marketing" methods used and prior data or information obtained and would be used for the following questions:

- Are models of behaviour change used to underpin communication strategy interventions? And what are the potential mediators and moderators of behaviour change?
- What are the approaches used in communications strategies of social marketing programmes? Which are most frequently used?
- Where and what are the important evidence gaps that arise in investigating these questions?

Evidence from the results of the individual and group studies would be used for the questions below. We would undertake meta-analysis subject to there being a sufficient number of studies with data of sufficient detail.

- What are the changes in health behaviours resulting from these approaches?
- What is the evidence of change in health outcomes consequent on behaviour change realised through communication strategies?
- What are the potential barriers, mediators and moderators which significantly influence the impact of communication strategies on health behaviour change?

AUTHOR(S) REVIEW TEAM

List names of those who will be cited as authors on the final publication.

Lead reviewer This is the person who develops and co-ordinates the review team, discusses and assigns roles for individual members of the review team, liaises with the editorial base and takes responsibility for the on-going updates of the review	Name: Jackie Leslie Title: Health Economist Affiliation: SCI, Imperial College Address: St Marys Campus, Norfolk Place, London Postal Code: W2 1PG Country: UK Phone: +44 207 594 3404 Email: j.leslie@imperial.ac.uk
Co-author There should be at least one co-author	Name: Josip Car Affiliation: Imperial College, School Public Health Country: UK
Co-author If applicable	Name: Lambert Felix Affiliation: Imperial College, School Public Health Country: UK

Co-author If applicable	Name: Sarah Knowles Affiliation: SCI, Imperial college Country: UK
Co-author If applicable	Name: Roy Head Affiliation: Development media Ltd Country: UK
Co-author If applicable	Name: Eva Fleur Riboli-Sasco Affiliation: Imperial College, School Public Health Country: UK

ROLES AND RESPONSIBILITIES

Brief description of content and methodological expertise within the review team.

- Content:

  Jackie Leslie has three years' experience in Neglected Tropical Disease monitoring and evaluation including performance measurement and health and social and economic impact assessment and evaluation. She has a good understanding of LIC health systems and health campaign implementation, promotion and mobilisation, coverage and compliance. Jackie has previously used social marketing methods and behaviour change frameworks in the context of environmental sustainability in UK.

  Dr Josip Car is primary care editorial adviser to the British Medical Journal, Board Member of Journal of Global Health, an Editor of the Cochrane Collaboration, and a Clinical co-director of The London (North West) NIHR Comprehensive Local Research Network. He has taken part in more than 10 systematic reviews in the last six years, including prevention of mother-to-child HIV transmission (PMTCT) programmes in developing countries.

  Dr Roy Head has extensive experience in media and health related communication in developing countries, having launched media campaigns for TB (Brazil) mother and child health (Orissa, India) and developed an HIV/Aids communication strategy in Mozambique.

- Systematic review methods:

  Lambert Felix (researcher) has an MSc in Evidence Based Social Intervention, Oxford University. He has worked as a researcher on six Cochrane reviews, and is a named author on 11 peer reviewed papers related to these reviews. Dr Josip

Car mentioned above and Dr Sarah Knowles (see below) have expertise in this area.

- Statistical analysis:

  Sarah Knowles has led several meta-analysis studies (Knowles, S. C. L. (2011). Knowles S. C. L., Nakagawa, S., Sheldon, B. C. (2009)), and has undertaken systematic literature searches, extraction of data, and meta-analysis and meta-regression in R and SAS software.

- Information retrieval:

  Lambert Felix, Eva Fleur Riboli-Sasco, Sarah Knowles, Jackie Leslie and Josip Car have previous experience in developing search strategies

POTENTIAL CONFLICTS OF INTEREST

We are not aware of any conflict of interest. However, we would disclose that Development Media, of which Roy Head is the CEO, in partnership with London School for Tropical Health and Medicine, has a three year mother and child randomised control trial in progress in Burkina Faso.

Josip Car is an Editor of the Cochrane Consumers and Communications Review Group.

SUPPORT

We do not anticipate needing support for these areas at this time; however, as we plan to register with the Cochrane public health group we might consider requesting support in checking and refining our search strategies.

FUNDING

Funding has been agreed through a 3ie award.

PRELIMINARY TIMEFRAME

- Date you plan to submit a draft protocol: January 4 2013
- Date you plan to submit a draft review: August 2013

DECLARATION

Authors' responsibilities

By completing this form, you accept responsibility for preparing, maintaining and updating the review in accordance with Campbell Collaboration policy. The

Campbell International Development Group will provide as much support as possible to assist with the preparation of the review.

A draft protocol must be submitted to the Group within six months. If drafts are not submitted before the agreed deadlines, or if we are unable to contact you for an extended period, the Group has the right to de-register the title or transfer the title to alternative authors. The Group also has the right to de-register or transfer the title if it does not meet the standards of the Group and/or the Campbell Collaboration.

You accept responsibility for maintaining the review in light of new evidence, comments and criticisms, and other developments, and updating the review at least once every three years, or, if requested, transferring responsibility for maintaining the review to others as agreed with the Group.

Publication in the Campbell Library

The support of the International Development Group in preparing your review is conditional upon your agreement to publish the protocol, finished review and subsequent updates in the Campbell Library. Concurrent publication in other journals is encouraged. However, a Campbell systematic review should be published either before, or at the same time as, its publication in other journals. Authors should not publish Campbell reviews in journals before they are ready for publication in CL. Authors should remember to include the statement: "This is a version of a Campbell review, which is available in The Campbell Library".

I understand the commitment required to undertake a Campbell review, and agree to publish in the Campbell Library. Signed on behalf of the authors:

Form completed by: **Date:**

Dr Jacqueline Leslie **Updated 6/12/2012; Sent 12/3/2013**

REFERENCES

Andreasen, A.R., (1995). *Marketing Social Change: Changing Behavior to Promote Health, Social Development, and the Environment.* San Francisco, CA: Jossey-Bass.

Figueroa, M. E., Kincaid, D. L., Rani, M. And Lewis, G., (2002). *Communication for Social Change: An Integrated Model for Measuring the Process and Its Outcomes.* The Communication for Social Change Working Paper Series: No.1, The Rockefeller Foundation.