Sustainability for behaviour change in the fight against antibiotic resistance: a social marketing framework

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Antibiotic resistance is one of today’s most urgent public health problems, threatening to undermine the effectiveness of infectious disease treatment in every country of the world. Specific individual behaviours such as not taking the entire antibiotic regimen and skipping doses contribute to resistance development as does the taking of antibiotics for colds and other illnesses that antibiotics cannot treat. Antibiotic resistance is as much a societal problem as it is an individual one; if mass behaviour change across the population does not occur, the problem of resistance cannot be mitigated at community levels. The problem is one that potentially can be solved if both providers and patients become sufficiently aware of the issue and if they engage in appropriate behaviours. Although a number of initiatives have been implemented in various parts of the world to elicit behaviour change, results have been mixed, and there is little evidence that trial programmes with positive outcomes serve as models of sustainability. In recent years, several scholars have suggested social marketing as the framework for behaviour change that has the greatest chance of sustained success, but the antibiotic resistance literature provides no specifics for how the principles of social marketing should be applied. This paper provides an overview of previous communication-based initiatives and offers a detailed approach to social marketing to guide future efforts.

Keywords: campaigns, communication, interventions, audiences

Introduction

Antibiotic resistance is one of today’s most urgent public health problems, threatening to undermine the effectiveness of infectious disease treatment in every country of the world.¹,² Although combating antibiotic resistance is a war that must be waged on one front by biological scientists, social scientists also have a key role to play because of the behavioural aspects of the problem (e.g. not taking an entire prescribed regimen, skipping doses and taking antibiotics for viral illnesses).

To minimize the rate of spread of antibiotic resistance development, both providers and current patients, as well as those who might be patients or the caretakers of patients in the future, must become sufficiently aware of the issue and engage in appropriate behaviours. Although a few behavioural indicators have brought good news in recent years, such as some decline in the UK and the USA in oral antibiotic prescription rates for children,³,⁴ recent evidence suggests that there are still large hurdles to climb to address the broader issue. For example, although there have been multiple efforts to educate both providers and patients about the prudent use of antibiotics, survey data from a recent national probability sample of 919 US adults showed that misunderstanding continues to exist about the appropriate use of antibiotics, and a substantial portion of the population still engages in behaviours that potentially contribute to the antibiotic resistance problem.⁵ The study found, for instance, that

- 44% of individuals who used an antibiotic within the past year reported skipping doses;
- 45% of individuals who used an antibiotic within the last year believed that antibiotics can effectively treat viruses (this finding is consistent with data from a 2001 European survey, showing that 41.3% of Europeans believed that antibiotics kill viruses as well as bacteria);⁶
- in almost every case where a respondent reported asking a healthcare provider for a prescription for an antibiotic, the provider gave it (this finding is supported by data from a recent study in Belgium with general practitioners);⁷
- 44% of the sample reported that they are just as likely now as 5 years ago to ask for an antibiotic prescription and 24% said that they are more likely to ask than they would have been 5 years ago; and

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of the 84% of the respondents who said they are very or somewhat aware of the antibiotic resistance issue, only approximately one-third of those individuals think antibiotic resistance is very common.

Recent studies from other parts of the world have also shown disappointing trends for both patients and providers. For example, an interview study with consumers in Wales found that both perceived importance and personal threat with regard to antibiotic resistance were low, and less than a quarter of the respondents indicated that they could positively influence the situation by expecting antibiotic prescriptions less often or by taking antibiotics according to instructions. A qualitative study with general practitioners also conducted in Wales found that many indicated that they infrequently encountered the consequences of antibiotic resistance in their everyday practices and even questioned the evidence linking their prescribing decisions to resistance and poorer outcomes for patients.

This is not a problem that will go away without a concerted effort to change the beliefs, attitudes and behaviour of key populations. Health-related changes are never easy to achieve as we have learnt from the challenges faced by those who attempt to persuade people to stop smoking, eat a low fat diet and a long list of other behaviours.

The purpose of this paper is to provide a framework known as social marketing that we believe has tremendous potential for stimulating sustainable behaviour change across targeted populations. Before discussing social marketing at length, we first briefly review the literature on previous attempts at behaviour change related to the use of antibiotics to glean lessons learnt. In the last decade, several groups have designed, implemented and evaluated behaviour change efforts. Most of the published literature reporting outcome data focuses on smaller-scale initiatives (primarily, but not exclusively conducted in the USA), but there also is some information available from national campaigns that have been evaluated in Europe, New Zealand and Australia. Although the overview of the literature is not a systematic review, it does provide a context for understanding how social marketing differs in approach.

previous initiatives

clinical settings

Much of the literature has focused on interventions conducted within clinical settings (primarily in the USA) that relied on traditional media and message channels such as workshops, educational sessions, mailed letters, posters, pamphlets and refrigerator magnets. The types of clinical settings that have relied on traditional information channels have included managed care organizations; walk-in clinics; private practice offices and emergency rooms. Other clinical-based interventions have communicated messages about antibiotics through video technologies such as playing a videotape in the waiting room; sending a videotape home with parents; placing interactive kiosks in hospital emergency departments and providing paediatricians with point-of-care evidence through computer workstations.

Across the clinical-based interventions, the results have been mixed. At least in the short term, the evidence suggests that communication-driven approaches can modify beliefs, attitudes and behaviour about antibiotics, with the greatest chance of success coming from interventions that rely on multiple channels of communication and target both providers and patients. However, there is little evidence from these studies that change lasts, and even intervention teams that produced positive outcomes in clinical settings have cautioned that a single intervention is not likely to result in dramatic, sustained change.

communities and larger geographical regions

Other communication initiatives have encouraged behaviour change by using mass media outreach to target larger geographic areas such as communities, school districts, regions and states. Although most of the interventions occurred in the USA, there are examples from elsewhere in the world. The types of communication tactics used have included asking local media to disseminate information about the proper use of antibiotics; distributing brochures through pharmacists; incorporating peer-education programmes in school districts; passing out information at community fairs; distributing pamphlets within communities; broadcasting regional public service announcements; placing posters on public transportation and purchasing TV and radio advertising.

Much like the clinically based approaches, evaluation results tell us that initiatives aimed at broader, regional audiences have varied in their success, and results have called into question whether lasting behavioural change will occur. In many instances, target audiences report an increase in awareness and modest change in behaviour immediately following the intervention, but the evidence for sustained change is lacking.

National campaigns

Beyond clinical and regional interventions, there have been attempts (again, with mixed results) to remedy the antibiotic resistance problem through large-scale societal efforts that focused on attitude and behaviour changes for entire nations. In Europe, published reports have described national campaigns in Belgium, France and the UK. For three successive years, Belgium implemented a campaign for 3 month periods during the winter months that targeted the public using a variety of communication tactics used have included asking local media to disseminate information about the proper use of antibiotics; distributing brochures through pharmacists; incorporating peer-education programmes in school districts; passing out information at community fairs; distributing pamphlets within communities; broadcasting regional public service announcements; placing posters on public transportation and purchasing TV and radio advertising.

In France, a long-term nationwide campaign called "Keep Antibiotics Working" was launched in 2002 that targeted the general public with written materials and TV ads, and interventions aimed at general practitioners included peer-to-peer visits and the promotion of streptococcal rapid diagnostic tests for sore throats. Preliminary evaluation results showed a reduction in total antibiotic use over a 3 year period, and public opinion polls showed changes in knowledge about antibiotics and their role in general practice. In the UK, two national efforts, both of which were launched in 1999, were less successful than counterparts in Belgium and France. The first campaign, which was called CATNAP (Campaign on Antibiotic Treatment and National Advice to the Public), targeted both patients and providers, but the evaluation of the campaign revealed that it had little effect. The second national campaign in the UK, which featured "Andybiotic" as an animated character touting the slogan "Don’t wear me out", targeted young women and mothers. Assessment of the initiative found that campaign penetration was poor and that increases in awareness were minimal.
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On the other side of the globe, national campaigns also have been conducted in both Australia and New Zealand. A 4-year campaign in Australia, which was created by the National Prescribing Service Ltd in 2001, targeted both consumers and health professionals each winter about the appropriate use of antibiotics for upper respiratory tract infections (URTIs). The message was disseminated through many different channels such as billboards, TV, radio, magazines and editorial coverage through both print and broadcast. Outcome evaluation data for the programme showed a modest positive change in consumer awareness, beliefs, attitudes and behaviour regarding the appropriate use of antibiotics for URTIs. In New Zealand, the Wise Use of Antibiotics campaign, which was implemented for multiple years starting in 1999, was less successful. For message tactics, the campaign relied heavily on the use of posters and family practice waiting rooms in pharmacies and the distribution of leaflets to patients in pharmacies and primary healthcare centres. Evaluation data showed that although there was evidence that antibiotic use declined during the time of the initiative, survey data indicated that basic awareness about the facts surrounding antibiotics had not changed.

Conclusions from past initiatives

Although there has been evidence of success in some programmes and insights have been gained (e.g. the value of targeting both providers and patients and of using multiple channels to communicate), the question still remains: Are the programmes that realized initial success models for sustainability? Based on many years of research across a wide spectrum of health-related campaigns, the answer to the sustainability question is not one that can be answered in the affirmative with confidence. Almost all previous antibiotic initiatives have been grounded in a traditional, information-intensive health education approach that relies heavily on knowledge leading to attitude change that in turn leads to lasting behavioural transformation. In most cases, long-term sustainability does not result from this line of attack. And sustainability, after all, should be the ultimate goal. In the same manner in which corporations carefully analyse their potential audience, project and develop plans for growth and increased market share and develop strategies for maintaining their customer base years into the future, public health initiatives should also implement change strategies structured for sustained success. We know, though, from established behavioural theories and frameworks such as the Transtheoretical Model that the task is complicated because behaviour change rarely progresses in a straightforward fashion and then easily locks into place. Individuals often change behaviour for a variety of reasons for periods of time (e.g. as a result of the Hawthorne effect in an intervention in which participants change behaviour because they are aware that they are being observed and wish to comply with the wishes of the researcher), but in many instances, they revert to their old ways unless motivators and values become firmly rooted and norms that support lasting change are established within populations.

In the last few years, three different published articles on the antibiotic resistance problem have addressed the same concern and have specifically pointed to a particular framework as a guide for approaching the creation and implementation of interventions that feature sustainability as a hallmark. The framework the articles identified as the appropriate guide is social marketing. First, a team of scholars representing multiple European nations argued that campaigns must be sustainable to be effective and offered social marketing as the model for sustainability. A year later when writing about the same issue in two different publications for the Journal of Antimicrobial Chemotherapy, a group of British scientists stated that we will only make a real difference to the antibiotic problem when we have a fundamental understanding of current behaviours with regard to values and motivations. They then offered social marketing as the model of choice because of its attention to sustainability and its emphasis on theories of persuasion and behaviour change and the focus on repetition to target changes in behaviour.

We agree with the basic conclusion reached by these scholars, but in neither instance did the authors provide their readers with significant detail about what it means to construct an intervention within a social marketing framework. In the remainder of this article, we delineate the fundamental principles of social marketing and show how they can be applied to the problem of antibiotic resistance. We believe that social marketing has tremendous potential to be a model for sustainability because the method is the one that goes beyond the traditional approach of creating a message about new behaviour and hoping that the audience reacts accordingly. Social marketing also includes the creation of messages, but the framework places far greater emphasis on understanding the lives of the recipients of the message and how target audience members receive and respond to new information about their health within the context of competing messages and competing behaviours. Social marketers recognize that individuals only change behaviour when new behaviours become a priority and when they have unhindered access to opportunities and places that allow them to engage in the behaviour with ease and comfort. Social marketing provides a greater chance for sustainability because, if done well, it provides a fair and attractive exchange for people in which they view new behaviours as more appealing and rewarding than old ones.

Social marketing perspective on antibiotic resistance

Background

Social marketing is a perspective on behaviour change that traces its roots to the 1950s, but the idea did not grow until the 1960s and 1970s when other scholars began to write about its core principles and gave it a name. Although social marketing has been used to address a variety of social concerns, its area of deepest penetration has been health-related behaviour. Successful social marketing initiatives focused on health outcomes have included the truth anti-smoking campaign aimed at teenagers, the Swiss Stop AIDS programme that sought to increase condom use among casual sex partners and the PREMI initiative that increased vaccination coverage in Ecuador.

Although communication is a primary component of social marketing, not all communication efforts with behaviour change as a goal can accurately be categorized as social marketing. In an attempt to distinguish social marketing from other types of initiatives, Andreasen, who is one of the leading scholars in social marketing, offered six defining criteria.

(i) Behaviour change is the benchmark used to design and evaluate interventions.
(ii) Projects consistently use audience research.
(iii) There is careful segmentation of the target audiences.
(iv) Creating attractive motivational exchanges with target audiences is the key to strategy.
(v) Strategy relies on a complete marketing mix instead of just communication.
(vi) Careful attention is paid to the competition faced by the desired behaviour.

In the paragraphs that follow, we explain each of these in the context of thinking about the antibiotic resistance issue.

**Behavioural focus**

The ultimate goal of social marketing is behaviour change, which can only be achieved when detailed attention is paid to defining the behavioural focus. Too often campaign planners become sidetracked in their efforts when they fail to make careful choices about focus and confuse themselves and their target audiences. When targeting health problems, there rarely is one obvious behaviour that succinctly defines the issue. In most cases, choices must be made. For the antibiotic resistance problem, there are multiple behaviours that could become the focus of an initiative. For example, when targeting patients, the key behaviour might be refraining from pressuring healthcare providers for an antibiotic. Or the marketable behaviour might be taking antibiotics exactly as prescribed. Both behaviours are intricately tied to the larger problem, but each is a unique behaviour in which an individual can engage without necessarily performing the other. When targeting physicians, the specific behaviour for intervention might be not prescribing for uncomplicated colds, using a wait-and-see approach for ear infections, or not prescribing broad-spectrum or new antibiotics as a first-line treatment for non-severe conditions.

Successful social marketing efforts avoid confusing target audiences with overly complex messages and multiple messages and sets of directives. When a behaviour or a set of behaviours becomes too complicated, there is a high risk that an audience will ignore the initiative completely and retreat to past behaviours that are comfortable, familiar and simple to process. We are not suggesting that a social marketing approach to antibiotic resistance intentionally ignores key behaviours linked to the problem, but the strategy for behaviour change must start with a behavioural outcome that can be defined, described and promoted to the target audience without ambiguity.

**Audience research**

The cornerstone of any successful social marketing initiative is a thorough understanding of the target audience. Unfortunately, in the past, many health-related campaigns intended to change behaviour have been developed with an expert-driven approach. That is, campaign initiators assume that their messages will be received and acted upon by target audiences simply because it is in the best interest of the audience to do so. The social marketing perspective emphasizes that without a deeper understanding of the lives of audience members and how individuals view a particular public health issue within the context of their own reality, there is little chance of convincing people to change. Audience research in its various forms, therefore, is considered an essential ingredient for any social marketing effort.

Formative research that provides insights into the mindsets and actions of potential audience members is always the starting point. For approaching the antibiotic resistance issue, we advocate a multi-pronged approach to formative research. To complement existing survey data from national probability samples,5,45 we recommend conducting focus groups with audience segments as a starting point for understanding: (i) the language they use to talk about antibiotics; (ii) their world view of illness and the use and efficacy of medications; and (iii) expectations for how healthcare providers respond to their needs. Along with the focus group data, which can be overused,46 we also encourage those using a social marketing approach to consider other qualitative techniques such as face-to-face in-depth individual interviews; ‘up-to-fives’ (interactive sessions with up to five people that allow for more in-depth discussion than traditional focus groups); immersion hikes (day trips with members of the target audience that permit relaxed, open discussions); ethnography (observing target audiences in their everyday environments or asking them to keep diaries); and person-on-the-street-interviews (interviewing unscreened respondents in locations where behaviour takes place).44 Assuming that providers also are a target for behaviour intervention, then the same level of rigour must be used to understand their world as well through formative research.

Once initial insights have been gained about target audiences (e.g. what channels of communication they prefer, what they value most in life, barriers they perceive to behaviour change, benefits they see to adapting new behaviours and the reasoning behind the beliefs that they hold), social marketers place great emphasis on using a variety of techniques to pre-test message concepts and final executions with members of the target audience. In too many instances, programme developers have failed to test strategies for reaching their audiences before implementing them, only to learn after the fact that strategies were not good matches to the audience.47

After thoroughly pre-testing the approach, social marketers closely monitor the implementation of the strategy through process evaluation (e.g. using techniques such as log tracking systems, collecting data from electronic monitoring of advertisements, stock inventories, tracking calls to telephone hotlines, monitoring web site hits, conducting surveys to assess awareness and exposure to initiatives) to make certain that the system for delivery is in place and that the audience has been exposed to the initiative as intended. Social marketing also heavily emphasizes the constant need for rigorous outcome evaluation, which is planned from the very start of the initiative and matched to clearly articulated objectives. The gold standard method for outcome evaluation in social marketing is the classic experimental design (or at least a quasi-experimental design when random assignment is not possible) where behaviour change within a population exposed to the social marketing initiative is compared with a control population that was not exposed. However, in instances where the classic experiment cannot be applied, there are other designs such as a time-series study that can yield valuable data about the effectiveness of an initiative.48

**Segmentation of audiences**

One of the most common reasons for failure in behaviour change initiatives is the implementation of a ‘one size fits all’ strategy. That is, programme planners attempt to effect change
within a broad population and assume that everyone will respond in a like manner.\textsuperscript{57} That outcome is rare. Social marketing places heavy emphasis on audience segmentation, which refers to the process of dividing a population into distinct segments based on characteristics that influence their responsiveness to interventions such as the benefits they find most attractive or the advocates they most trust. Segmentation allows social marketers to identify the subgroups they can realistically reach with available resources and permits motivation of distinct groups based on their needs and values.\textsuperscript{49}

For example, in the probability sample of US adults mentioned earlier in this article, researchers learnt that although well-educated respondents were unlikely to stop taking an antibiotic prescription early or prefer antibiotic treatment for colds, they had a strong tendency to demand antibiotics from healthcare providers. Younger adults were not at higher risk for this behaviour, but did engage in most of the other antibiotic misuse patterns studied; they were more likely to obtain antibiotics from sources other than healthcare providers, to stop taking antibiotics early, to skip three or more doses in a course of treatment and to prefer that their children receive antibiotics for early stage colds. African-Americans also had higher rates of reporting these behaviours, while Hispanic respondents had higher misuse levels only for the behaviours of obtaining from a non-healthcare source and for preferring antibiotics for children with colds.\textsuperscript{5} Using survey data such as these provides an initial look at segmentation and offers clues to targeted strategies for reaching subgroups.

Because healthcare providers play a crucial role in the antibiotic resistance issue, careful attention must also be paid to them as a separate audience. As we learnt from the review of previous initiatives, the most successful interventions are those that target both consumers and providers. As part of segmentation, social marketers should strive to understand the unique circumstances and cultures of different types of providers. For example, do general practitioners and paediatricians have different views on approaches to antibiotic prescriptions? Do they face unique pressures that they receive from their patient population base that affect their prescribing decisions?

**Exchange**

One of the defining characteristics of the social marketing perspective is that individuals will only change their behaviour when they are convinced that they are engaging in a fair and attractive exchange. Although social marketers have turned to a variety of theoretical perspectives for insight into individual initiatives, exchange theory serves as social marketing’s primary conceptual foundation.\textsuperscript{50} Exchange theory, which is derived from psychological and economic principles, assumes that we are need-directed beings with a natural inclination to try and improve our own situation.\textsuperscript{51} In order for a successful exchange to occur, both parties act primarily to fulfil their own interests. In the case of a health-related initiative such as antibiotic resistance, an organization engaged in social marketing assesses and meets the needs of a target audience, and the organization (and, in this case, all of society) benefits in return when members of the audience change their behaviour.\textsuperscript{50,52} The emphasis on exchange theory differentiates social marketing from other approaches to behaviour change such as education, which assumes that knowledge in and of itself leads to change, and a regulatory approach, which relies on enforcement to affect behaviour.\textsuperscript{50,53}

Although we know from successful social marketing campaigns that offering an attractive exchange is necessary, it is often difficult to identify an exchange that strongly resonates with audiences and allows them to see immediate benefits that will improve their lives. Anti-smoking advocates, for instance, have traditionally faced obstacles in constructing social marketing initiatives aimed at young people. In the past, health communicators focused on long-term benefits such as reducing the risk of developing lung cancer, but the success of such efforts was limited because teenagers cannot easily relate to pleasure that will not be experienced for several decades. To offer a more attractive exchange, social marketers in recent years have highlighted benefits that provide more immediate pleasure (e.g. persuading teens that they will be more desirable for dating partners if they refrain from smoking).\textsuperscript{54}

For antibiotic resistance, previous larger-scale communication initiatives typically have not offered compelling benefits in exchange for engaging in appropriate behaviours. Sponsoring organizations have communicated some information about benefits, but the payoff to the individual often lacks both specificity and allure. For example, the ‘Cold or Flu. Antibiotics Don’t Work for You’ brochure that has served as a key promotional tool for the Get Smart initiative sponsored by the Centers for Disease Control and Prevention in the USA provides a clear, simple directive to not ask a physician for antibiotics for viral infections, but the exchange offered in return for the behaviour probably fails to engage many readers. The brochure says: ‘Using antibiotics when they are not needed causes some bacteria to become resistant to the antibiotic. These resistant bacteria are stronger and harder to kill. They can stay in your body and cause severe illnesses that cannot be cured with antibiotic medicines. A cure for resistant bacteria may require stronger treatment—and possibly a stay in the hospital’.\textsuperscript{55} There is a stated reward for using antibiotics appropriately, but it is not clear whether the payoff will result within a few months or 30 years in the future. Similarly, a pamphlet distributed jointly by Procter & Gamble, the Provider Service Network and the Alliance for the Prudent Use of Antibiotics in the USA offers a similarly vague exchange. The brochure warns that ‘Using antibiotics wisely will help preserve their effectiveness in the years ahead’, but the immediate benefit is allusive.\textsuperscript{56}

**Marketing mix**

**Promotion.** Another essential ingredient to the application of social marketing is the marketing mix, which is borrowed from commercial marketing and is commonly referred to as the four ‘P’s. A true social marketing initiative carefully integrates all four elements. The ‘P’ that is the most visible component of the marketing mix is *promotion* and is the social marketing element most directly linked to communication.\textsuperscript{46,50} For an initiative to be labelled accurately as social marketing, the process must include the entire mix and not just the creation and communication of a message, but too often individuals not familiar with the complex relationship of all elements of the marketing mix to one another reduce social marketing to promotion only and claim to have conducted a social marketing initiative when all they have done is develop promotional materials.\textsuperscript{52}

Promotion typically receives the most attention because it is the component that becomes the face of an initiative, is the most tangible and is most easily shared with others through

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presentation or posting on a web site. Although promotion alone will not lead to behaviour change, it is vital to the success of any campaign. Great care must be taken to craft concepts, create messages and choose the right channel for delivering information. As programme planners move forward with developing full-scale social marketing initiatives, they should carefully review past promotional strategies to learn what has resonated with audiences the most but always keep in mind that new audiences might best respond to other promotional strategies. Because the antibiotic resistance issue is also somewhat complex and not always easy for the public to understand, messages must be clear and compelling.57

Product. The second of the four ‘P’s is product. Although it is possible for the product to be a physical object such as a condom, as it would be with commercial marketing, more commonly social marketers attempt to ‘sell’ an intangible product that is an idea, social cause or, most frequently, a change of behaviour.50 When the product is not something one can easily hold or touch such as a behaviour, the social marketer has the challenge of making these intangibles meaningful in a way that appeals to the target audience.58 For the antibiotic resistance problem, increasing tangibility is a realistic goal, but there is a danger of trying to market too many products at once.

A key to success with social marketing is for the social marketer to reposition the product (i.e. the behaviour) within the minds of the target audience in such a way to create a customer-focused value proposition that presents a cogent reason for why the audience should engage in the new behaviour. Social marketing experts recommend that the repositioning be guided by a simple statement that takes the form of ‘We want [TARGET AUDIENCE] to see [DESIRED BEHAVIOR] as [DESCRIPTIVE PHRASE] and as more important and beneficial than [COMPETITION].’ For example, if we want young children to regularly wash their hands in order to help combat antibiotic resistance, the positioning statement that might guide the initiative could be ‘We want young children to see handwashing as an act of play and fun and as more important and beneficial to them than the 30 seconds they save by not washing their hands’.59

Price. A third ‘P’ is price. In commercial marketing, price usually refers to the monetary value placed on a product. In social marketing, money also can figure into the price an audience member must pay in order to change behaviour, but price refers in large part to the collective barriers that an individual must overcome to adopt the proposed action.50,53 Non-monetary barriers can be social, behavioural, psychological, temporal, structural, geographical and physical.58 For the antibiotic resistance issue, potentially there are heavy prices to pay for changing behaviour that programme planners must acknowledge and counterbalance. For example, if the focus of an initiative is on changing the prescribing behaviour of physicians, social marketers must carefully analyse the price that the practitioner has to pay each time he or she increases the time of an office visit by adding conversation with patients about the overuse of antibiotics. When considering patients as the audience, social marketers must account for the peace of mind that taking an antibiotic for the common cold offers many people. Common sense tells us that when individuals feel miserable, their primary concern is to relieve their suffering as quickly and as painlessly as possible. Although the medical reality is that antibiotics will not alleviate cold symptoms, the belief that antibiotics will make a difference serves as a powerful motivator to continue requesting them.

Giving up a strongly held belief and accompanying behaviour that provides real psychological comfort and perceived physical relief from illness is a large price to pay. The price a parent of a sick child might pay for not requesting an antibiotic might be even greater. Letting a child’s viral illness run its course without an attempt at formal medical intervention might result in guilt if one views one’s self as a parent who is not proactive enough about the health of a child. Part of an overall pricing strategy directed at patients should include, as past initiatives have done, information that there are a limited number of illnesses for which antibiotics will provide an actual benefit. However, social marketers must also convince the target audience that the new behaviour that replaces the old one has attractive benefits of its own. Price is not simply the downside of change and what people are required to give up.

Place. The final ‘P’ is place, which refers to the process by which the product is made available to the members of the target audience at the time and place when it will be of greatest value to them.52 In order for social marketers to take advantage of the most ideal places, they have to identify path points, which are locations people regularly visit; times of the day, week or year of their visits; and points in the life cycle where people are likely to act. A place strategy also includes consideration of the role of intermediaries who are people and/or organizations that provide goods, services and information and perform other functions that facilitate the change process.46 Because the antibiotic resistance issue is so inextricably linked to the interaction that individuals have with their primary healthcare providers, a place strategy must necessarily consider creative ways to use physicians’ offices, clinics, pharmacies and emergency rooms as locations for encouraging desired behaviours. The review of previous initiatives has shown that these settings can serve as key points of contact with audiences. Social marketers who design a comprehensive initiative relying on all four ‘P’s must pay close attention to the lessons learnt from the past work in these places and consider how intermediaries who work in them can help to deliver the message and facilitate behaviour. At the same time, social marketers must explore new places for engaging target audiences. For instance, when targeting parents of young children, we need to ask how day care facilities, elementary schools and parent groups can serve as path points.

Competition. In the same way in which commercial marketers analyse their position within a competitive marketplace, social marketers must identify the behaviours that compete with the ones they are advocating.57 For example, when attempting to motivate people to reduce their daily caloric intake, social marketers must have an in-depth understanding of how much the consumption of food and drink in social situations competes with counting calories. For the antibiotic resistance issue, physicians might have a thorough understanding of the problems caused by prescribing antibiotics for viral infections, but if they are under organizational pressure to increase the number of patients they treat per hour, taking the time to explain to an anxious parent that antibiotics will not alleviate flu symptoms directly competes with the time-driven diagnostic behaviour. Part of the overall strategy for a social marketer is to provide a
means for target audiences to either eliminate the competition, which is unlikely, or to reframe it so that the conflict presents less of a dilemma.

Conclusions

Although we do not view social marketing as a cure-all for the antibiotic resistance problem, we do believe that the framework, which has been successfully implemented for a variety of health issues around the globe, has the potential to bring about significant, sustainable change if the principles are closely followed and sufficient resources are expended to support a large-scale effort. A perfect example of how social marketing can be used successfully is the VERB™ campaign that was implemented in the USA by the Centers for Disease Control and Prevention, with the goal of increasing and maintaining physical activity among tweens (i.e. 9–13 year olds). The 5 year campaign began in response to the childhood obesity epidemic and data that showed that five of every eight American tweens did not participate in any organized physical activity during non-school hours. Based on rigorous audience research, campaign planners developed a comprehensive approach in which they repositioned physical activity (the product) within the minds of tweens by ‘selling’ the behaviour as fun, exhilarating and something that puts you in control of your own life and as more pleasurable than leading a sedentary life (the exchange of the price strategy). Planners also worked with partners around the country to increase the number of opportunities and locations for tweens to engage in physical activity (place strategy), and they created an integrated message strategy (i.e. promotion) in which they used print, TV, activity promotions, grassroots marketing and contests and sweepstakes to communicate about the advantages of physical activity. Evaluation data have shown through a panel design that the campaign was successful in changing and sustaining behaviour. 

In order to apply social marketing principles to the antibiotic resistance issue and have the same level of success as has VERB™ and other similar social marketing initiatives around the world, a concerted effort will be needed as well the expenditure of necessary resources. Collaborative endeavours among experts such as the CHAMP (Changing Behaviour of Health Care Professionals and the General Public Towards a More Prudent Use of Anti-Microbial Agents) initiative in Europe have the potential to serve as a model and as an organizational starting point for moving forward. Success can be achieved when best practices are followed, and a sharp focus on guiding principles is maintained. The stakes are too high to do otherwise.

Transparency declarations

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