

5.6 Measures to assess the impact of anti-tobacco public communication campaigns

Introduction

Public communication campaigns are used to improve awareness, knowledge, and understanding of an issue, in an attempt to influence individual behaviour, build support for, and contribute to policy and social change. Carefully monitoring the implementation and outcomes of campaigns is essential to ensuring their effectiveness and demonstrating their contribution to a specific public health outcome. This section summarizes the main components of individual behaviour change and public will campaigns, briefly describes the theory and practice of public communication campaigns and their evaluation, and provides approaches for evaluating each component to determine impact, from planning and development through implementation and demonstrating results. Specific measures are identified for use as indicators of the achievement of proximal and intermediate outcomes of public communication campaigns. However, the key to measuring the impact of public communication campaigns is articulating clearly at the outset what the campaign is intended to accomplish, who the campaign is intended to reach, what the campaign is intended to cause, and

what communication and evaluation strategies will be used.

A comprehensive public communication campaign will include multiple components and demand extensive resources, particularly for media production and placement (Atkin, 2001; Coffman, 2002; Dorfman *et al.*, 2002). These components may include resources for advertisement production and placement across a range of media; development and use of press materials and press events; advocacy activity to influence how messages are framed and interpreted; and community action to make messages locally relevant, compelling, and supportive of campaign goals. However, specific campaign components may be implemented independently and, depending on the desired outcomes, may be nearly as effective as a comprehensive campaign. Depending on the aims of the campaign, and the resources and opportunities of the local jurisdiction (nation, province, state or community), specific components or combinations of components will be more relevant. This section provides guidance on evaluation methods for use in planning and implementing a public communication campaign in order to increase the likelihood of success. It will also serve as

guidance on measures to be used to demonstrate the effectiveness of the campaigns in achieving more proximal outcomes associated with the WHO FCTC Article 12 directives (WHO, 2003; Figure 5.32).

Selecting measures of effectiveness and demonstrating them are easiest when a campaign is grounded in a change theory that describes a logical progression from activities to outcomes. Measures of effectiveness then can be selected to coincide with specific expected outcomes, as described in Figures 5.33 and 5.34. For example, a public communication campaign designed to increase support for and promote the enactment and effective implementation of a smoke-free air law might include:

1. Television, radio, and print advertising about the health hazards associated with exposure to tobacco smoke, with measures of effectiveness demonstrating that the target audience saw or heard and understood the message and assimilated the information (i.e., awareness, attitudes, beliefs, or knowledge increased or were reinforced).
2. Contacts with news, health, community reporters, and editorial staff to encourage news, editorial, and community interest

Each Party shall promote and strengthen public awareness of tobacco control issues, using all available communication tools, as appropriate. Towards this end, each Party shall adopt and implement effective legislative, executive, administrative or other measures to promote:

- (a) broad access to effective and comprehensive educational and public awareness programmes on the health risks including the addictive characteristics of tobacco consumption and exposure to tobacco smoke;
- (b) public awareness about the health risks of tobacco consumption and exposure to tobacco smoke, and about the benefits of the cessation of tobacco use and tobacco-free lifestyles as specified in Article 14.2;
- (c) public access, in accordance with national law, to a wide range of information on the tobacco industry as relevant to the objective of this Convention;
- (d) effective and appropriate training or sensitization and awareness programmes on tobacco control addressed to persons such as health workers, community workers, social workers, media professionals, educators, decision-makers, administrators and other concerned persons;
- (e) awareness and participation of public and private agencies and nongovernmental organizations not affiliated with the tobacco industry in developing and implementing intersectoral programmes and strategies for tobacco control; and
- (f) public awareness of and access to information regarding the adverse health, economic, and environmental consequences of tobacco production and consumption.

WHO (2003)

Figure 5.32 WHO FCTC Article 12: *Education, communication, training and public awareness*

stories about the dangers of tobacco smoke and conveying support for smoke-free policies. Proximal outcomes might be the news and special interest stories and editorials that are printed or aired addressing the policy goals.

3. Media advocates might use similar public relations strategies focused on media outlets in particular legislative districts that are known to be accessed by influential leaders. Outcomes might be documents from records of public comments by the targeted decision makers.
4. Community groups and members may be organised to host community education events, meet with political representatives, offer personal testimonials of the value of

smoke-free air policies or adverse impacts of tobacco smoke exposure. Proximal outcomes of these strategies could include media coverage of community events, opinion polling, intercept interviews, or other indicators of community attitudes, and meetings with or other engagement of local decision makers.

Together, these coordinated actions, promulgating a clear and consistent message and demand for policy action, constitute a comprehensive public communication campaign to advance the public health as outlined in the WHO FCTC; specifically, as directed in Article 12 (Figure 5.32). This section describes the use of public communication campaigns to advance these Article 12 directives and measures of

whether the campaign has contributed to specific goals.

Components of a public communication campaign

Public communication campaigns tend to be divided into two types, each emphasizing somewhat different strategies and outcomes: individual behaviour change campaigns, and public will or public engagement campaigns (Coffman, 2002). Individual behaviour change campaigns seek to change the types of behaviours that lead to personal or social problems or instill behaviours that will improve individual or social well-being (Coffman, 2002). Public will campaigns, on the other hand, focus on motivating public officials to take policy action, which in turn will motivate, support, or enhance

health and healthy behaviours. Public will campaigns are used to "...legitimize or raise the importance of a social problem in the public eye as the motivation for policy action or change." (Coffman, 2002). Evaluation challenges, strategies, and measures are somewhat different for each type of campaign. Ideally, government-led individual behaviour change campaigns will raise awareness, produce behavioural change, revise the social context within which behaviour occurs, and produce new demands on the government to further advance environmental shifts to reinforce and produce new behaviour change. For example, a government-sponsored campaign on the health risks of tobacco use could lead to public demands for government services to treat tobacco dependence, and a new tax on tobacco products to pay for the services. The public will campaign for a higher tobacco tax, and dedicated use of the new resources may be coordinated by nongovernmental organisations, but may eventually lead to a government-sponsored campaign to increase access to tobacco dependence treatment.

Individual behaviour change campaigns ("public education campaigns") emphasize advertising and marketing as a main strategy. Campaign planners and evaluators must have a clear sense of what the campaign will cause to happen, why it will happen, and who it will happen to, based on some theory of behaviour change (described

below in the section). Measures of campaign effectiveness will center on what members of the target group will be aware of, know, and do as a result of the communication campaign that is different from what they were aware of, knew, and did before the campaign (National Cancer Institute, 2002), or that is different from what a comparable group is aware of, knows, and does related to topics addressed in the campaign.

Public will or engagement campaigns are used to build public demand ("will") to address a particular problem through policy and social action. Public will campaigns focus on the public's responsibility to create the supportive environment that will allow or promote a desired behaviour change (Coffman 2002; National Cancer Institute, 2005). The key strategies of public will campaigns are media advocacy and public relation, with reinforcing and supporting community action, including community organising and policy advocacy. Public will campaigns seek to set the public agenda by influencing the media agenda (and the way people and decision makers are exposed to and process issue information) through media advocacy. But the ultimate objective of policy or social change is achieved because the public will campaign prompts people to act, not by adopting a particular health behaviour, but by supporting (demanding) a particular policy change.

Public communication campaigns include a variety of communication, and other strategies, to educate the target population and disseminate information in compelling and engaging ways to raise the level of discomfort individuals have with a particular behaviour (e.g. tobacco use). They also pressure decision makers on specific issues for the purpose of changing (or advancing) policies. Types of public communication include paid (or "mass") media, public relations, media advocacy, and community action implemented discreetly or in combination (Coffman, 2002; Dorfman *et al.*, 2002). Thus, the public communication campaign components shown in Figure 5.33 can be implemented and evaluated as a multi-component intervention, with the interventions and outcomes in each "row" influencing outcomes in other rows, or as discreet campaigns, with outcomes following linearly from the specific intervention.

Paid media:

Paid or mass media is often the most expensive component of a public communication campaign, and yet may be the one that reaches the greatest number of people. It can be effective in communicating a tightly controlled message, creating an image, brand, theme, or call to action for the overall campaign, and can change attitudes, beliefs, and knowledge in the target population. Paid media, also known as advertising, introduces an issue or

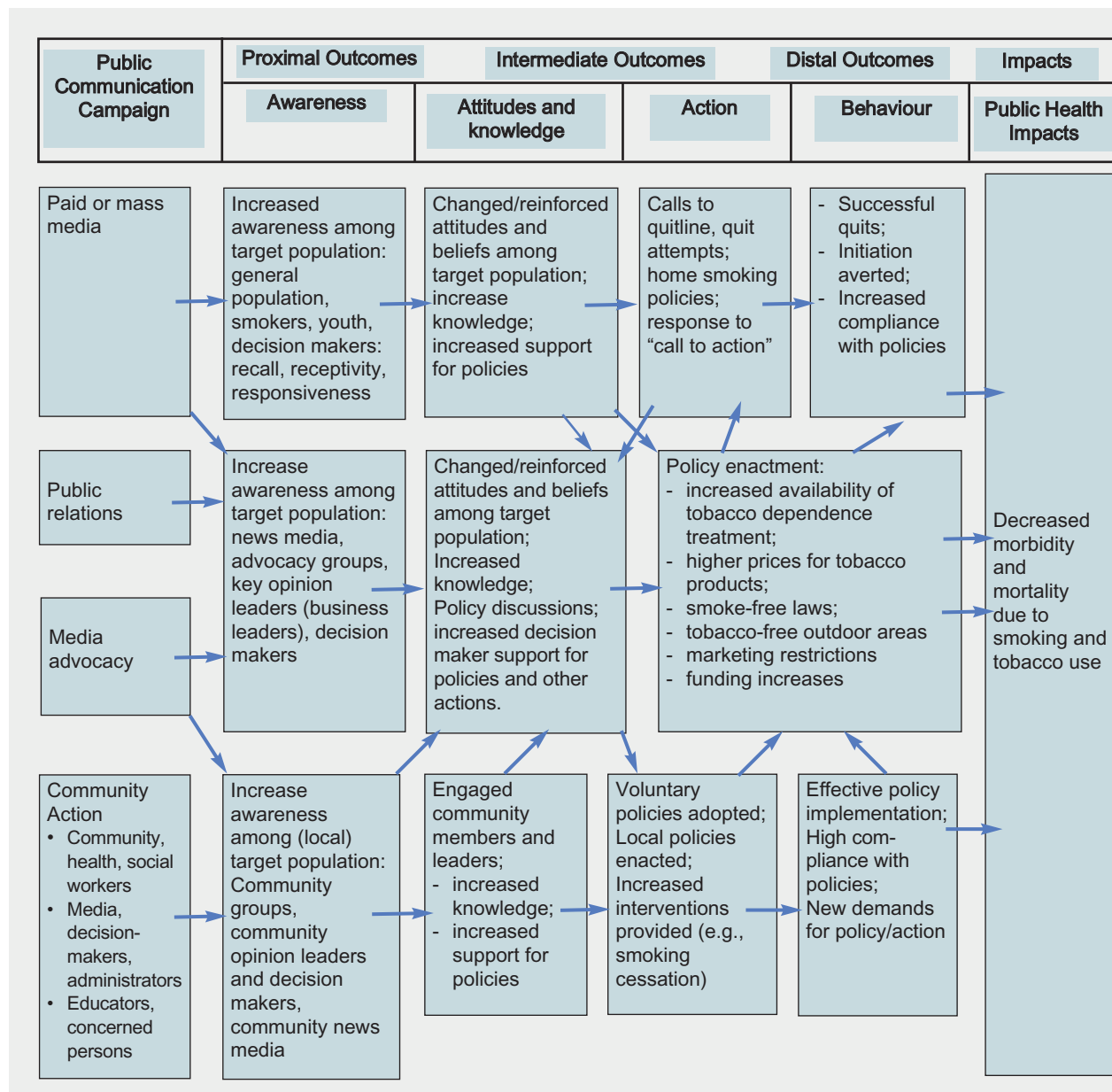


Figure 5.33 Flow diagram of public communication components and proximal and distal outcomes

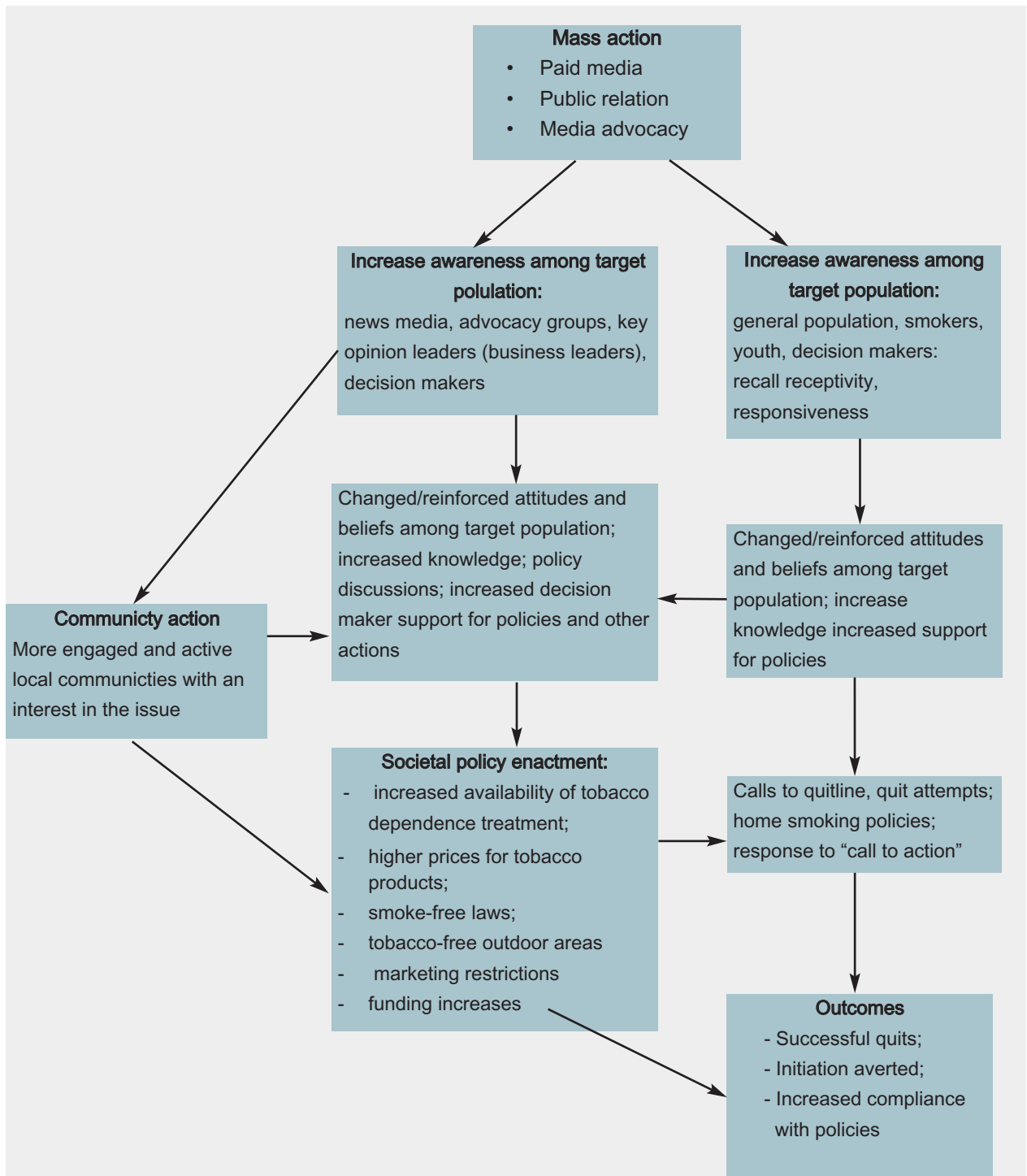


Figure 5.34 Conceptual framework for evaluation of anti-tobacco public communication campaigns

concept, delivers it to a large audience, and, if done effectively, raises awareness, increases knowledge, creates interest, engagement, concern, and stimulates conversation and action (Centers for Disease Control and Prevention, 2003). Paid media is not a necessary part of a public communication campaign. However, if resources are available, it can dramatically expand the reach of a campaign and reinforce and support the public relations and community action components. Paid media also may be used as a media advocacy strategy, with key messages strategically placed in print, electronic, and other media, to reach influential decision makers and opinion leaders, including policy makers. Mass media that is not paid for (e.g. media campaigns that rely on donated time and the use of public service announcements), can serve the same function as paid media in an overall public communication campaign, but is unlikely to have the reach of paid media or the target specificity; in addition, placement most likely will be outside the control of the campaign. Depending on the resources available, and the specific targets of the campaign message, paid media campaigns can feature a variety of media channels including television, radio, print, transit, billboards, Internet, brochures, and others.

Public relations:

The goal of public relations is to disseminate public communication

campaign messages through others, specifically the news media, opinion leaders, and those who may be perceived as having more credibility or objectivity than campaign sponsors or paid media messages. Exposure obtained from public relations is “earned” coverage; “earned” because it is not paid for but obtained through strategic advocacy efforts, including working with news media outlets, community leaders, policy makers, and others with influence to disseminate key messages. Public relations provides opportunities to reach the target audience through sources that appear more legitimate, and allows the provision of more detailed information than paid media, all while positioning the campaign positively and potentially influencing the policy debate (Centers for Disease Control and Prevention, 2003). Public relations also provides the opportunity to “localize” national and international news, events, and research (Chapman & Dominello, 2001; Niederdeppe *et al.*, 2007), and bring to life local stories of personal tragedy (e.g. related to tobacco use) that can stand on their own or be coordinated with and reinforce paid media messages.

Public relations involves establishing relationships with members of the press, and other influential members of the community, developing supporting materials including press releases and press kits, and staging community events and press conferences, among other strategies. News and other media play a large role in determining what the public thinks

about (agenda setting), how information is organised and packaged for public consumption (framing), and focuses the public on particular information at particular times for use in decision making (priming). Thus, public relations strategies are key elements of public communication campaigns and should be vigorously implemented as part of public engagement campaigns, in particular, that seek policy or social change (Wallack *et al.*, 1993, 1999; Coffman, 2002). While public relations strategies are employed to set the public agenda and keep issues in the public eye, they are often directed at specific policy makers and become part of a media advocacy strategy.

Media advocacy:

Media advocacy is an effort to use the tools of mass media and public relations to reframe the public debate, encourage a community to rethink its norms, and reach decision makers who have the power to transform the community environment through the adoption of policies that enhance public health (Wallack *et al.*, 1993, 1999; WHO, 2004). Media advocacy differs from paid media in that its main target is comparatively small (and could be only one individual), and the goal is policy change that will promote, support, or reinforce individual behaviour change and the public health agenda. However, media advocacy can use paid media as one strategy to accomplish advocacy objectives. In order to reach those individuals

with the power to make the policy change, media advocacy efforts can target highly organised and motivated individuals (or organisations) who can pressure policy makers to make the desired change. Media advocacy may even target the general public in an effort to set the public agenda and reframe an issue. In this case, paid media is a tool of media advocacy; communicating a message to policy makers through engaged citizens as the target audience. Mass media campaigns showcasing responsible tobacco company behaviour are likely media advocacy campaigns targeted at politicians and voters in an effort to recast the company's public image, earn the respect of the public, and relieve public pressure on policy makers to take action that would constrain the industry. Just as paid media, targeted at specific groups of individuals, may use a variety of messages that cajole, engage, cause fear, or provoke anger in an effort to stimulate behaviour change, media advocacy uses both positive and negative tactics to exert pressure on decision makers and provoke political action.

Community action:

In the context of public communication campaigns, community action engages the community in defining a problem locally and taking community-specific steps to advance a behavioural, normative, or policy shift at the local level or in support of state or national goals. Community action is linked to, and

increases the resources of, the larger public communication campaign, raising awareness, engaging local news media, organising community events, disseminating information through local channels, and meeting with (and advocating with) local officials (Pierce *et al.*, 1990; Bracht, 2001). These community efforts are often legitimized, reinforced, and supported by paid media. Where paid media may not be possible, community action becomes a crucial component of public communication campaigns, often incorporating community organising tactics to advance media and policy advocacy objectives. Community action is both an extension of the public communication campaign to the local level, and a strategy in support of key public communication campaign components. It can take the form of community advocacy, public relations, participation in government processes, decision maker education, leadership training, staged events (e.g. press events, media advocacy, and grassroots mobilization), and community organisation to demand change (Niederdeppe *et al.*, 2007). Community action also increases the likelihood that the public communication campaign messages and results will endure long past the formal end of the campaign (Bracht, 2001).

Theoretical underpinnings

Grounding a campaign in one or more theories of behaviour change

enables campaign planners to explain why and how a campaign should work, thus assessing the campaign's progress throughout the health communication process, not just at the end of the campaign (Atkin, 2001; Coffman, 2002; National Cancer Institute, 2002; Randolph & Viswanath, 2004). Assessing progress enables planners to improve the campaign as it is developed and implemented, before more resources have been invested in a campaign that may not succeed. Public communication campaigns that are grounded in theory are easier to evaluate over the lifetime of the campaign (and easier to causally link to outcomes), as planners are able to identify at the outset the more immediate or proximal indicators of whether a campaign is on track, as well as the longer-term indicators of campaign effectiveness. Change theories relevant to public communication campaigns include: the theory of reasoned action, social cognitive theory, the health belief model, the trans-theoretical model ("stages of change"), consumer information processing model, organisational change theory, community organisation theory, and diffusion of innovation theory (among others), each described briefly below. Readers are referred to Connell & Kubisch (1998), Atkin (2001), Bracht (2001), Coffman (2002), and the National Cancer Institute (2002) for additional information, bibliographies, and primary sources.

The theory of reasoned action postulates that attitudes and

norms create behavioural intentions, which in turn cause behavioural outcomes. A public communication campaign may be designed to change or reinforce specific attitudes and norms for the purpose of causing behaviour change. An evaluation of such a campaign would assess reinforcement of or shifts in attitudes and norms, and would only expect behavioural change where attitudes were or became consistent with the desired behaviour change. If such attitudinal shifts failed to occur or were not reinforced, the campaign would likely be revised.

Social cognitive theory postulates that behaviour change results from motivation to change and the acquisition of skills and abilities (self-efficacy) to change, within a given environmental context. A public communication campaign grounded in this theory would try to attract the target audience's attention, convey a compelling message, impart specific skills, and provide motivation to undertake behaviour change (preferably in conjunction with a reinforcing environmental change, such as a price increase on cigarettes, or the adoption of a smoke-free policy). An evaluation of such a campaign would assess attitudes and knowledge (skills) in the target population and desire to change the behaviour. In addition, a firm understanding of the environmental context would help shape the development of the campaign.

The health belief model suggests that people change

behaviour when they feel susceptible or vulnerable as a result of a given behaviour, and believe that the costs of continuing the behaviour outweigh the costs of changing the behaviour.

The trans-theoretical model ("Stages of Change") posits that people proceed through (linearly or cyclically) a readiness continuum of behaviour change stages from pre-contemplation to maintenance of the behaviour change. Public communication campaigns based on this theory will identify the specific stages of the target population and attempt to move them to the next stage, will have different messages for audiences in the different stages, or, perhaps, will target people at one stage only. Evaluation outcome measures will be determined by the purpose and target audience of the campaign, and may be limited to shifts along the readiness to change continuum (e.g. from "happy to smoke" to "thinking about quitting").

The consumer information processing model suggests that how much and what kind of information people have and how they process it, are determinants of whether people will use information to inform and motivate behaviours or behaviour change. To increase the chances that information will be used in decision-making, public communication campaigns must make information available, package it as innovative and useful, and ensure that it is accessible to (able to be processed by) the target population. Tenets of this theory

are particularly helpful for evaluating campaign messages, materials, and delivery media during the planning phases and early implementation to ensure that messages are understood by and resonate with the target audience.

The principles of community organisation theory are based on community empowerment and capacity building. In order to be successful and have a sustained impact, public communication campaigns must include partnerships with community members, organisations, and governments, and mobilize communities to develop and implement strategies in support of campaign goals. Evaluation of a campaign based on this theory would include stakeholder interviews, measures of community competence, monitoring of community activities, and other community evaluation techniques.

Diffusion of innovation theory describes how new norms, ideas, products, and practices diffuse through communities and become accepted or established in society. The theory focuses on characteristics of the innovation, as well as characteristics of the community, social networks, and communication systems through which the innovation is spread. Cigarette use is a primary example of how a new product "catches on" and diffuses through communities. Currently, smoke-free norms are being re-established, with the "diffusion" explained by this and other theoretical models.

Often, public communication campaigns are grounded in several theories in order to account for the complexities involved in behavioural and social change enterprises. They may even adopt new theoretical approaches as the campaign proceeds, based on evaluation findings, which might revise their understanding of the local (or audience-specific) change process, or provide new information about population attitudes and beliefs.

Theory and practice of public communication campaign evaluation and approaches to evaluating each component

In the context of the WHO FCTC, evaluation of public communication campaigns should assess whether the campaign is meeting its objectives as it is being planned, developed, and implemented in order to best ensure success, and demonstrate that the campaign has indeed achieved the expected outcomes. Thus, evaluation resources should be invested at the planning and developmental stages to ensure that specific interventions are customized to the target population and are culturally specific and appropriate. They should also be invested over the life of the campaign, and beyond, to assess whether proximal and more intermediate outcomes are being met. Particularly where innovative or unproven strategies are being implemented, or new theoretical

models are being tested, more formal outcome studies may be appropriate. Public communication campaigns may be discreet interventions with a beginning, an end, and a predictable sequence of events in the middle. Often, however, they are more accurately described as a “messy social process” (Hornik, 2002), diffused by multiple strategies, through multiple channels, across individuals, communities, and institutions, with direct and indirect effects and diffuse outcomes that may reverberate long past the official “end” of the campaign (especially if policy change objectives were achieved) (Freimuth *et al.*, 2001). As a result, evaluation resources are appropriately invested in ongoing surveillance, point in time monitoring, special studies to identify opportunities for improvement, confirm that progress is being made, identify mediational and moderator effects (see Section 3.2), and link interventions to specific milestones and outcomes. Experimental designs and controlled trials often are not possible or appropriate (Balch & Sutton, 1997; WHO, 1998b), but instead a collection of information, existing data, and specific studies are needed to fully understand whether and how a campaign worked. Tightly linking campaign objectives to proximal outcomes can help demonstrate impact and, in particular, can help rule out competing explanations for observed change. Table 5.40 lists methods to assess the effectiveness of each public com-

munication campaign component at various levels of evaluation, including establishing proximal outcomes.

At the outset of a public communication campaign, the problems and issues to be tackled and the baseline situation will have been established through ongoing surveillance or, at the community level, a needs assessment. The programmatic evaluation typically is conceptualized and implemented in four stages (described below) throughout the life span of the intervention and beyond. Formative evaluation begins as campaign concepts are being developed and summative evaluation focuses on the overall value of the campaign in terms of accomplishing its stated objectives. At the front end, evaluation includes testing and verification of campaign concepts (“formative”) and careful monitoring of campaign activities and resources (“process”) to ensure the campaign is being developed and implemented appropriately, efficiently, and with some likelihood of success (Atkin & Freimuth, 2001). At the back end, “outcome” evaluation answers the questions of whether the campaign has achieved its short- and long-term objectives, and has value to the community in terms of advancing public health goals (a major focus of this volume). The point is that evaluation should be well integrated into all phases of the public communication campaign, and this information should be well-utilized throughout the life

Communication Strategy	Paid media Public service announcements	Public relations and earned media	Media advocacy and government relations	Community action
<i>Level of Evaluation</i>				
<i>Ongoing Surveillance</i>				
<i>Structured analysis of data from existing surveillance systems</i>				
Formative				
Do the messages, materials, strategies “work?” Are they tailored to the intended audience?	Focus group discussions; Internet panel studies; Marketing surveys; Document analysis	Key informant in-depth interviews; document analysis	“Who do you know?” inventory; key informant in-depth interviews	Community needs assessment; community capacity analysis; strengths, weaknesses, opportunities, threats (SWOT) analysis; health risk profile
Process				
Implementation process: what and how much was done? Distribution, effort expended, resources committed	Gross rating points (GRPs)/Target rating points (TRPs), which are available from media buying firms and media channels, provide indicators of reach, frequency, exposure, and impressions.	News media tracking: count of stories run; tobacco control advocacy groups cited; content analysis, slant. Case study	News media framing analysis	Activity logs; meeting minutes
Proximal and Intermediate Outcomes				
Knowledge, attitude, policy, normative shifts	Population based/random digit dial (RDD) surveys (in-person, mail, telephone, Internet) of knowledge, attitudes, beliefs, behaviours; calls to telephone help line; web site visits, measures of responses to specific calls to action.	Special population surveys/key informant interviews; Official records of government policy and NGO policy.	Document analysis of legislative records. Case study.	Community policy database: voluntary, statutory/regulatory; Case study.
Distal Outcomes				
Behaviour change, disease rate change	Cigarette tax and sales records; behavioural risk factor and disease surveillance; disease registries; vital records			

Table 5.40 Methods to Assess the Effectiveness of Public Communication Campaigns by Campaign Component and Level of Evaluation

cycle of the campaign, and beyond, to make judgments about campaign progress, improve its effectiveness, and inform decisions about its future (Patton, 1997). Tables 5.41 and 5.42 list indicators of the effectiveness of each public communication component and corresponding outcomes by evaluation level. Each level is described more fully below.

Formative evaluation:

Formative research and evaluation identify the causal pathway through which an intervention is likely to work, and facilitates campaign improvement as it is being developed and implemented. It does not speak to the campaign's value or impact, but identifies its strengths and weaknesses, and aspects of the campaign that are not working as planned or are not likely to succeed (Mark *et al.*, 2000). It can provide information about key messages that are or are not resonating, and the types of individuals who are or are not responding to the campaign, among other variables important to its success. Information from formative evaluation is used by campaign planners and staff to solve problems, address weaknesses, revise expectations, revamp the campaign concepts and executions, or otherwise improve conceptualization and implementation (Patton, 1997). Evaluation and research, such as marketing surveys, that inform the creative process, also serve as

baseline measures of attitudes, beliefs, and norms the public communication campaign is attempting to change.

Process evaluation:

Process evaluation is applied to programme implementation and answers the question how well the campaign is being delivered to the intended audience. Process tools measure effort and activity and help inform whether a campaign is being delivered as intended, and, if not, where the shortfalls are occurring. Retrospectively, process evaluation can shed light on what went wrong, if a particular campaign fails to meet its objectives, and identify lessons on how to make future campaigns more effective. Process evaluation involves monitoring resources, activities, and inputs including materials produced and distributed, news contacts made, meetings held, and a variety of information related to the placement of paid media. Process evaluation does not address the achievement of campaign outcomes or impacts, but can be used to link campaign activities to those outcomes by quantifying the "dose" of the campaign over time and in different communities.

Outcome evaluation:

Evaluation strategies for proximal outcomes are used by public communication campaign planners and evaluators to determine whether the shorter-term outcomes the campaign was

designed to achieve have actually been met. As outlined in Figure 5.33, outcome evaluation generally requires more resources than formative or process evaluation, and, depending on the availability of financial and scientific resources, may be accomplished by special studies or by accessing information from routinely collected data sources. Outcomes of public communication campaigns vary from cognitive shifts (proximal) through social normative and behavioural shifts (distal), including individual knowledge, beliefs, awareness, attitudes, self-efficacy, behavioural intentions, behaviour through environmental changes, media frames, policy enactment, and normative change (measured policy enactment and compliance with policies).

Evaluation of more distal outcomes assesses achievement of public health goals, which almost certainly do not result from public communication campaigns alone. Impacts would include changes in health behaviours (e.g. tobacco use), tobacco-related disease rates (e.g. lung cancer incidence), and, ultimately, rates of death due to tobacco use. Outcome evaluation can be the most rigorous, complex, and resource intensive level of evaluation, and should be considered carefully at the programme (not the campaign) level. Public communication campaigns, after all, constitute only one component of the WHO FCTC effort to transform society and "reaffirm the right of all people to the highest standard of health."

Communication Strategy	Paid or mass media Public service announcements	Public relations and earned media	Media advocacy and government relations	Community action
Level of Evaluation				
Formative	How is the message likely to make the audience feel? What message is understood and will the audience take away? What part of the message pleases, annoys, angers, scares the audience? Is the ad believable? Does the message speak to "people like me?" Is the message culturally appropriate? Is the message compelling? What is the appropriate channel for the message? What are the competing messages?	What is the current "information environment?" Will the message change the "information environment?" What <i>kind</i> of news to make (how to frame the message)?	Is the policy/legislative environment hostile or hospitable to the message? What are the competing priorities? Who are allies? What are obstacles?	Strengths, weaknesses, opportunities, threats (SWOT) analysis results; meetings with community members and leaders; formation of community advisory group
Process	Number of ads running, placement, impressions, Gross rating points (GRPs)/ Target rating points (TRPs), money spent, location of out-of-home media, time lines met	News media tracking: count of stories run; tobacco control advocacy groups cited; case study; content analysis; framing analysis (point of view, accuracy, slant, agenda setting)	Indicators of decision maker interest and action from public hearings and official meetings	Community meetings held; coalitions formed; organizations involved; number of activities, trainings and events planned/implemented; number of people who participate; resources invested in outreach (money, time, personnel); number of materials produced and distributed

Table 5.41 Formative and Process Indicators of the Effectiveness of Public Communication Campaigns by Campaign Component and Level of Evaluation

Communication Strategy	Paid media Public service announcements	Public relations and earned media	Media advocacy and government relations	Community action
<i>Level of Evaluation</i>				
Short-term Outcomes Awareness, knowledge, Attitude shifts	Confirmed awareness (discrimination) of media message; level of receptivity to media message (e.g. talked to others about it); support for specific policy: increased availability of tobacco dependence treatment; higher prices for tobacco products; smoke-free air laws; marketing restrictions; funding increases	Did the issue get on the media agenda? Was the issue framed according to the campaign objectives? Did the media coverage advance the message? Public/decision maker support for specific policy	Did the issue get on the public agenda? Support for policies; legislative proposals submitted; legislative bills introduced	Voluntary policies adopted; health care policies to provide tobacco dependence treatment; better informed professionals; improved health care services; availability of cessation support
Intermediate Outcomes Knowledge, attitude/policy shifts	Number of responses to call to action: calls to quitline, visits to web site, other); knowledge and attitude shifts: reduced acceptability of smoking/exposure to tobacco smoke; increased awareness of harm from smoking/tobacco smoke; increased intentions to quit; increased knowledge of how to quit	Policy enactment	Policy enactment; amount of cigarette or other taxes.	Community laws and regulations enacted; community services and programmes established
Distal Outcomes Behaviour normative change, disease rate change	Per capital consumption of cigarettes; smoking prevalence, use of other tobacco products; exposure to tobacco smoke; incidence of tobacco caused disease			

Table 5.42 Outcome Indicators of the Effectiveness of Public Communication Campaigns by Campaign Component and Level of Evaluation

If done well, they will most likely contribute to population or target group changes in, or reinforcement of, attitudes, knowledge, and beliefs that contribute to policy, environmental, and normative improvements that advance the public health.

Measures to assess proximal and distal outcomes

Of all the public communication campaign components, evaluation indicators are probably the most highly developed, or at least the most familiar, for paid media. Indicators include results of focus group testing of media messages to ensure they “speak” to or “resonate” with the target audience, convey the intended message, and are likely to provoke the desired attitude and behaviour changes. Indicators of the campaign’s reach into the target population and the frequency with which campaign messages were aired (usually quantified as gross rating points (GRP) or target rating points (TRP) for television ads and viewer “impressions” for print media) are common process measures. Reach also can be quantified by means of consumer surveys designed to elicit awareness of the campaign (i.e. aided or unaided recall of specific campaign ads, messages, and themes). Proximal measures of campaign effects, for example changes in awareness, attitudes, and knowledge about the issue being promoted, can be obtained by in-person, mail, telephone, or

Internet surveys of the target population, where outcome measures can be linked to awareness. More distal outcomes, like actual behaviour change, also are typically measured by some kind of survey of the target population. Similar survey tools and methods are used to assess population support for specific policy initiatives. Depending on the purpose of the campaign, other measures of campaign effectiveness may be appropriate. For example, indicators of effectiveness of a paid media campaign designed to promote telephone-based cessation services could include the number of calls to a helpline or number of calls among those aware of the campaign. Paid media campaigns promoting other calls to action (e.g. to visit a web site, sign a petition, or send a letter), would be similarly evaluated by the number of individuals who respond by taking the requested action. Systems would have to be established to compile and count these actions, and may be as simple as monitoring “hits” to a web site before and after a call to action, tallying the number of signatures on a petition, or including postage paid (addressed) envelopes in a letter writing campaign, with the postage charge providing information on the number of letters sent.

For process and outcome measures, in order to support a claim that changes in awareness, attitudes, and behaviours result from the campaign itself, evaluators need to demonstrate that the

effects occurred uniquely, temporally, or to a greater extent in the target population. This may be achieved by identifying a comparison community not receiving the public communication campaign. This could either be the target population, prior to implementation of the paid media campaign (good), a similar community not receiving the campaign at the same time as the target population (better), or by varying the dose of the campaign across jurisdictions (Farrelly *et al.*, 2005b). In some cases, intercept surveys, or surveys of available members of the target population (“convenience” samples), will be the only practical means of gleaning the potential impact of a campaign. Such surveys may be useful for obtaining anecdotal information, identifying problems, or fleshing out the details of findings from larger population surveys, but generally are not considered to be robust indicators of population level outcomes.

Perhaps the most common indicators of effective public relations result from news media tracking. This is both a simple count of news stories related to the tobacco topic promoted by a public relations effort (or a ratio of such stories to other health-related stories), and a content analysis of those articles to determine characteristics such as the message, accuracy, slant, point of view, and prominence of message, among others (Henry & Gordon, 2001; Durrant *et al.*, 2003; Clegg-Smith *et al.*, 2005; Neiderdeppe *et al.*, 2007). It may

even include responses to the story, such as letters to the editor, news media-sponsored Internet polls, and whether the story was “picked up” by other media channels and outlets. Together these indicate intermediate outcomes; demonstrating first that the public relations efforts resulted in increased news media coverage, and second that the coverage conveyed the information and point of view promoted by the public relations campaign. News media tracking efforts typically are limited to print news media, which has been shown to be a marker of media coverage overall (e.g. electronic media) (National Cancer Institute, 2006). However, coverage of television media can be tracked as well, with volunteers or paid viewers systematically viewing and cataloging television news coverage of specific issues for content and characteristics. While counting news stories and describing characteristics relevant to tobacco control is straight-forward, connecting them to specific programmatic outcomes may be more difficult, as noted by evaluators of the American Stop Smoking Intervention Study:

The challenge in evaluation, however, is demonstrating that news media coverage does in fact influence the thinking, decisions, and behaviour of the public and of policy makers. Although determining such a cause-and-effect relationship for some very focused and

geographically limited topics might be possible, researchers in the field of evaluation are still grappling with how to do so for wide-scale public health interventions (National Cancer Institute, 2006).

Process indicators become particularly important in making the link, as well as understanding how some strategies might be improved in the event that anticipated results are not achieved. Anecdotes and personal statements may be particularly relevant to understanding the influence of news stories on decision maker action.

The longer-term goals of the WHO FCTC are to change individual behaviour as a result of modifications to the social, economic, and health environment, which in turn result from government intervention (WHO, 2003). These modifications provide the conditions within which people can be healthy (Institute of Medicine, 1988). The implementation and success of these interventions are based in part on popular expectations and demands. Media advocacy strategies put these policy change debates on the public and policy maker agendas. By focusing media attention on specific public health issues (agenda setting), and focusing the debate to reflect the public health perspective (framing), media advocates seek to influence the information the public uses to make decisions (priming), and reach opinion leaders and policy makers to

change public policy (Wallack *et al.*, 1993). Indicators of media advocacy success include: measures of whether the campaign issue has become part of the media agenda and is framed according to the public health perspective (established through content analysis of news media programming and print news articles), whether media support the particular policy agenda (e.g. in newspaper editorials) and whether their support is associated with policy maker support (e.g. through key informant interviews), and whether that particular agenda is advanced (e.g. in legislative debate, the introduction of legislative bills or the enactment of legislation). Areas of exploration for formative and process evaluation of media advocacy include: an assessment of the message’s connection with people at the community level, the media’s understanding of the issue, how the issue can be framed to capture media and public attention and focus attention on larger public health values (e.g. how the tobacco control issue can be framed to emphasize social accountability rather than personal responsibility (Wallack & Dorfman, 2001)), how relationships have been developed with community advocacy groups and the media, and a quantification of the actions of these groups. Measures of proximal outcomes associated with media advocacy include: public support for specific policy goals as measured by in-person, mail, telephone or Internet

surveys, and political polling, and framing analysis to monitor and assess news media reports of specific policy initiatives and of the issue or problem the policy initiative seeks to address. Standard methods include: key informant and opinion leader interviews, political polling, news media tracking, and content analysis. Since the key targets of media advocacy are the policy makers (i.e. organisations or legislative bodies that have the power to make the policy change), indicators of success will be drawn from official meeting minutes and transcriptions, key opinion leader interviews focusing on specific initiatives, and official records of policy enactment, as well as news media reports.

Public communication campaigns are most effective in changing community and social norms, and building support for and actually prompting the enactment of public health policy, when they incorporate community action (Hopkins *et al.*, 2001). However, what constitutes community action, how community initiatives are described, quantified, and measured, and what change theories underlie their development and success, have been topics of ongoing debate (Connell & Kubisch, 1998; Bracht, 2001; Connell *et al.*, 2007). Successful community action involves change at many levels (individual, family, personal network, institutional, and community), including many domains (economic, social, physical, and community), and evolves over

different time periods (near-term, interim, long-term, or ultimate) (Connell & Kubisch, 1998). Thus, the measurement challenge is substantial. As with public communication campaigns overall, evaluation of community initiatives is easier when an explicit change theory is specified at the outset from which to identify specific indicators of the development and implementation of the initiative and progress toward anticipated short-, intermediate, and longer-term outcomes. Indicators should reflect the processes through which activities are developed and planned (community needs assessment, meetings held, individuals present, organisations involved), the implementation of those activities (e.g. meetings with decision makers, community forums, press events), and proximal results of these activities (the adoption of resolutions, community participation in events, news coverage, improvements in awareness of problems and solutions, increase in community member knowledge about the specific issue and support for specific action, evidence of decision-maker support), as well as longer-term change (policy enactment or the achievement of a specific objective, such as provision of community cessation services or removal of pro-tobacco advertising at a specific location) (Gambone, 1998). Methods for describing, monitoring, and capturing the effects of community action, community interventions, and measures of short- and

longer-term outcomes are only poorly developed at this time. Nonetheless, cataloging the input that supports community action (financial, in-kind, and personnel resources), quantifying activity levels (number of meetings convened, contacts made, events held), and documenting process through case studies, can be helpful in discerning whether and how community actions contribute to public communication goals.

Table 5.40 summarizes methods to assess the effectiveness of public communication campaigns by campaign component (paid media, public relations, media advocacy, and linked community action), and level of evaluation (formative, process, outcome), as described in this section. Not all jurisdictions will have the resources to implement a multi-component public communication campaign or field population-based surveys to assess campaign outcomes. For such jurisdictions, the methods within each column may be used discreetly for each level of evaluation within a particular component. It is not necessary to mount a population level survey in order to demonstrate a population level impact, but some population level data base (like emergency room admissions for acute myocardial infarction, calls to a quitline, or sales of cessation medication), with information proximally related to the campaign result, is needed.

Tables 5.41 and 5.42 list formative and process indicators and proximal and distal outcome

indicators, respectively, of the effectiveness of public communication campaigns, by campaign component and level of evaluation. Evaluation indicators of proximal campaign effects should be specific to the individual campaign message and communication component. For example, survey questions designed to understand the target audience's awareness of, or reactions to, a set of commercials or advertisements describing the health risks of exposure to secondhand smoke, will be specific to the content of the message and the goals of the campaign (e.g. to increase support for the enactment of or compliance with a smoke-free workplace law), and will be different from survey questions associated with a campaign to promote cessation among current smokers. In both cases, campaign planners and evaluators should test the messages with members of the target audience, monitor implementation of the campaign, assess exposure to and understanding of the messages, determine attitudes, beliefs, and knowledge related to the topic, before and after the campaign (or among those exposed and not exposed to the campaign), and assess changes (increases) in the likelihood of engaging in the particular campaign "call to action" (e.g. refrain from smoking in public places, demand no smoking in public places, think about quitting smoking, make a quit attempt). The specific questions used will be determined by the content and

goals of the public communication campaign. Examples of specific questions are provided below.

A helpful source of indicators to measure outcomes associated with public communication campaigns is the Centers for Disease Control and Prevention (CDC) manual, *Key Outcome Indicators for Evaluating Comprehensive Tobacco Control Programmes* (Starr *et al.*, 2005). This user-friendly, fairly comprehensive guide compiles and provides information on 120 outcome indicators for use in evaluating the short-, intermediate, and longer-term impacts of comprehensive tobacco use prevention and control programmes. Indicators are organised according to three programmatic areas (preventing initiation, promoting cessation, and eliminating exposure to tobacco smoke), and grounded in evidence-based logic models. Detailed information is provided for each indicator including indicator definition, example data sources, specific measures (e.g. question wording), and overall quality of the indicator. Those indicators useful for monitoring the outcomes of public communication campaigns, specifically, are listed in Table 5.43. The guide is available online (in English) at <http://www.cdc.gov/tobacco/Indicators/KeyIndicators.htm>.

The Question Inventory on Tobacco, formerly known as The Survey Questionnaire Design Resource (available online (in English) at <http://apps.nccd.cdc.gov/QIT/>), is another important resource for identifying survey

questions that contribute to effective measures of intervention outcomes. Also developed by the CDC's Office on Smoking and Health, the online resource categorizes more than 1700 tobacco-related questions from 13 United States national and state surveys that have been used starting in 1990. The Question Inventory on Tobacco resource provides easy-to-use search capabilities to locate survey questions, including possible answer formats, and identifies the specific surveys in which the questions have been used.

The WHO FCTC Article 12 describes five topics about which the public should be made aware through public communication tools: 1) health risks of tobacco consumption (including addiction), 2) health risks of tobacco smoke, 3) benefits of quitting, 4) aspects of the tobacco industry, and 5) adverse health, economic, and environmental consequences of tobacco production (this topic is not addressed in this section). In addition, Article 12 specifically addresses awareness of tobacco issues among media professionals, decision makers, community health and social workers, educators, and concerned individuals. Various strategies can be used to achieve public awareness, from traditional paid media campaigns utilizing television, radio and/or print targeting the general population or population subgroups (like smokers or youth), to strategic, targeted public relations and community action (or education)

Outcome Level	Indicator Number	Indicator description
Short-term	1.6.1	Level of confirmed awareness of anti-tobacco media messages
	1.6.2	Level of receptivity to anti-tobacco media messages
	1.6.4	Level of support for policies
	1.6.5	Level of support for increasing excise tax on tobacco products
Intermediate	1.10.1	Proportion of young people who think that smoking is cool and helps them fit in
	1.10.2	Proportion of young people who think that young people who smoke have more friends
	1.10.5	Proportion of young people who are susceptible never-smokers
	1.12.1	Amount of tobacco product excise tax
	3.11.1	Proportion of adult smokers who have made a quit attempt
	3.11.2	Proportion of young smokers who have made a quit attempt
	3.11.3	Proportion of adult and young smokers who have made a quit attempt using proven cessation methods
Longer-term	2.7.1	Proportion of the population reporting exposure to secondhand smoke in the workplace
	2.7.2	Proportion of the population reporting exposure to secondhand smoke in public places
	2.7.3	Proportion of the population reporting exposure to secondhand smoke at home or in vehicles
	3.13.1	Proportion of smokers who have sustained abstinence from tobacco use
	3.14.1	Smoking prevalence
	3.14.2	Prevalence of tobacco use during pregnancy
	3.14.3	Prevalence of postpartum tobacco use
	3.14.4	Per capita consumption of tobacco products

From Starr *et al.* (2005; <http://www.cdc.gov/tobacco/Indicators/KeyIndicators.htm>)

Table 5.43 Example Indicators from *Key Outcome Indicators for Evaluating Comprehensive Tobacco Control Programmes Relevant to Monitoring the Effects of Public Communication Campaigns*

campaigns targeting community leaders, health care providers, business leaders, nongovernmental organisation directors, tribal leaders, and others. Specific measures to ascertain population level awareness and knowledge of

topics included in Article 12 are described below.

Awareness of paid media campaigns by the general population or specific targeted subgroups (e.g. smokers, youth) is generally ascertained by popu-

lation level surveys, including telephone surveys (care should be taken with written surveys to ensure that responses are not cued by response categories or other prompts). Awareness can be ascertained by general questions

that require the participant to fill in details of the campaign, or of specific ads, or by providing the participant with some general information about a campaign or ad in an effort to prompt or facilitate recall (Table 5.44). Unaided recall is generally considered to be a superior method for accurately estimating exposure to and awareness of a campaign or message (Sly *et al.*, 2001b), but aided recall has been shown to be an effective measure as well (Niederdeppe, 2005). Measures of awareness are designed to determine exposure to a specific message or advertisement, so that respondents can be categorized according to exposure level, and differences in attitudes and behaviours can be correlated to awareness. Some more general measures of awareness are intended to ascertain the amount of anti-tobacco advertising to which subjects are exposed, in order to make more general inferences about the relationship between anti-tobacco messaging in general, and attitudes and behaviours in general. Finally, measures of the relevance or salience of the media message to the individual provides key information on whether the campaign is effectively communicating the message, the types of individuals who are more likely to respond to the message, and the utility of the campaign in contributing to programme goals. This information can be used to strengthen a poorly performing campaign in progress or, at least, provide useful information for

developing the next campaign. In order to assess exposure to and awareness and salience of messages to survey participants, measures need to be customized to the specific media campaign.

Once exposure, awareness, and salience are assessed and quantified, an analysis can be undertaken as to whether those who were exposed to the campaign message were aware of it or receptive to it in some way, are more likely to be aware of and understand the key messages of the campaign, and whether this new awareness or knowledge is associated with specific proximal outcomes (e.g. attitudes and beliefs). Measures of awareness and knowledge of specific campaign messages should be constructed to closely match specific messages being delivered and the overall intent of the communication campaign. The measures described in Table 5.45 relate specifically to awareness and knowledge of the topics described in Article 12. For campaigns that address other topics (e.g. motivating tobacco users to quit, issues related to “light” and “low tar” cigarettes, increasing support for specific policies), readers are referred to surveys and measures described in this Handbook and elsewhere (National Cancer Institute, 2002; Centers for Disease Control and Prevention, 2003; Starr *et al.*, 2005). Measures of behaviours (e.g. quitting, uptake, abstinence) that a campaign may seek to influence, as well as mediators and moderators of these

behaviours (e.g. perceptions of risk, cooccurring disorders), are discussed in Section 3.1.

Measures of effectiveness for public relations, media advocacy, and community action efforts are less well developed and generally have not been collected and catalogued in the form of surveys, interviews, and question lists. Readers are referred to Tables 5.41 and 5.42 for listings of the types of information that should be collected in order to assess the effectiveness of these efforts. Additional information, resources, and “how to” instructions for assessing the effects of public relations and media advocacy efforts, in particular, are available from Radke (1998), National Cancer Institute (2002), Centers for Disease Control and Prevention (2003) and the WHO (2004), among others.

Monitoring other communication campaigns

Public communication campaigns constitute an effort to control the information environment (Randolph & Viswanath, 2004), to make specific information available to the target population, influence the public agenda, and frame the policy debate from a public health perspective, with the objective of changing behaviours, norms, and policies to advance public health. However, public communication campaigns often take place in a cluttered and competitive environment. They are competing for attention with other communication campaigns,

Construct	(a) Awareness of Specific Anti-Tobacco Media Messages
Measure	<p>“Have you recently seen an anti-smoking or anti-tobacco ad on TV that shows-- [brief description of ad]?” (Yes, Maybe, No)</p> <p>“What happens in this advertisement?”</p> <p>“What do you think the main message of this ad was?”</p>
Source	LMTS, 2003 (http://americanlegacy.org)
Validity	Established validity (Sly <i>et al.</i> , 2001b)
Variations	<p>Variations are possible in the amount of prompting provided to the respondent (e.g. “Are you aware of any advertising or campaign against smoking or about or against cigarette companies that is now taking place?” (Yes, No) from [source?])</p> <p>“What is the theme/slogan of this advertising or campaign?”</p>
Comments	<p>It may be necessary to assess overall TV viewing/radio listening patterns to understand whether participants had the opportunity to be exposed to the media message.</p> <p>Expected response categories should be pre-determined, but should not be read to the respondent. Responses are categorized as accurately describing the ad (indicating awareness) or not.</p>
Construct	(b) Awareness of General Anti-Tobacco Media Messages
Measure 1: Adult	<p>“Now I would like you to think about advertising or information that talks about the dangers of smoking, or encourages quitting. In the last 6 months - [since...] - how often, if at all, have you noticed such advertising or information?” (Never, Rarely, Sometimes, Often, Very often)</p>
Source	The ITC Project, 2007
Validity	Face validity.
Variations	<p>The time period of interest, the medium specified, and the types of ads described can all vary (e.g. “During the past 7 days, how many commercials have you seen on TV about NOT smoking cigarettes?” (None, One, Two or three, Four to six, Seven or more), from Global Adult Tobacco Survey (GATS, 2007).</p> <p>In this question, one can substitute (or add) “heard on the radio” or “seen on a billboard,” as appropriate, for “seen on TV.”</p>
Comments	<p>The use of this general item is helpful to characterize level of exposure to the broad range of state/provincial and national or other media-based anti-tobacco education campaigns. Such questions may be particularly helpful for pre-campaign surveys to quantify the amount of “background” anti-tobacco advertising to which the population is exposed.</p>

Table 5.44 Measures to Assess Population Level Awareness and Knowledge of Public Communication Campaign Paid or Mass Media Components

Measure 2: Youth	“During the past 30 days (one month), how many anti-smoking media messages (e.g., television, radio, billboards, posters, newspapers, magazines, movies) have you seen or heard?” (A lot, A few, None)
Source	GYTS, 2007
Validity	Face validity.
Variations	“When you go to sports events, fairs, concerts, community events, or social gatherings, how often do you see anti-smoking messages?” (I never go to sports events, fairs, concerts, community events, or social gatherings, A lot, Sometimes, Never)
Comments	The use of this general item is helpful to characterize level of exposure to the broad range of state/provincial and national, or other media-based, anti-tobacco education campaigns. Such questions may be particularly helpful for pre-campaign surveys to quantify the amount of “background” anti-tobacco advertising to which the population is exposed. The variation may be useful for assessing awareness of general anti-smoking messages in non-electronic venues.
Measure 3: Locations	“In the last 6 months, have you noticed advertising or information that talks about the dangers of smoking, or encourages quitting in any of the following places?” (Yes, No) – READ OUT EACH STATEMENT
	<ul style="list-style-type: none"> • on television • on radio • at the cinema [US/Canada/AUS: at the movies] • on posters or billboards • in newspapers or magazines • on shop/store windows or inside shops/stores where you buy tobacco • on cigarette packs • leaflets • on the Internet • anywhere else? (specify)
Source	The ITC Project, 2007
Validity	Face validity.
Variations	Locations listed should be relevant to the campaign and the jurisdiction and should vary, as appropriate.
Comments	Understanding where consumers are exposed to anti-tobacco media may help in planning a public communication campaign, or may help identify specific ads or campaigns to which consumers have been exposed.

Table 5.44 Measures to Assess Population Level Awareness and Knowledge of Public Communication Campaign Paid or Mass Media Components

Construct	(c) Awareness of Smoking Related News Stories
Measure	<p>“Now I want to ask you about the media more generally. First, thinking about news stories relating to smoking or tobacco companies that might have been on TV, radio, or in the newspapers. In the last 6 months, that is, since [6 month anchor], about how often, if at all, have you seen or heard a news story about smoking?” (Never, Rarely, Sometimes, Often, Very often)</p> <p>“On balance, how did the news stories portray smoking? Were they All pro-smoking, Mostly pro-smoking, Equally pro- and anti-smoking, Mostly anti-smoking, All anti-smoking?”</p>
Source	The ITC Project, 2007
Validity	Face validity.
Variations	
Comments	These questions can help assess the effects of public relations and media advocacy efforts, when compared over time and referencing periods of campaign activity. Results should be cross referenced with news media tracking to better understand how people’s perceptions correspond to actual reporting.
Construct	(d) Salience of the Anti-Tobacco Media Message
Measure 1: Adult	<p>“This ad said something important to me. Would you say you... (Strongly agree, Agree, Disagree, Strongly disagree, Have no opinion, Don’t know?”</p> <p>“After seeing this ad, did you talk to anyone about not smoking?” (Yes, Maybe, No)</p>
Source	Wakefield <i>et al.</i> , 2003b
Validity	Established validity.
Variations	This question set focuses on not smoking. Depending on the content and purpose, other topics could be inserted in place of “not smoking.”
Comments	This type of question is used following the respondent’s description of a specific ad to gauge whether the respondent found the ad to be salient to his or her situation, and whether the ad prompted the respondent to think more about the topic.
Measure 2: Youth and young adult	<p>“On a scale from 1 to 5, where 1 means you don’t like this ad at all and 5 means you like the ad very much, how much do you like this ad?” (One, Two, Three, Four, Five)</p> <p>“Would you say the ad grabbed your attention?” (Yes, No)</p> <p>“Did you talk to your friends about this ad?” (Yes, No)</p>
Source	Legacy Media Tracking survey (LMTS; http://americanlegacy.org)

Table 5.44 Measures to Assess Population Level Awareness and Knowledge of Public Communication Campaign Paid or Mass Media Components

Validity	Established validity. Thrasher <i>et al.</i> , 2006b.
Variations	<p>“Tell me how much you agree or disagree with the following statement: This ad is convincing. Would you say you... (Strongly agree, Agree, Disagree, Strongly disagree, Have no opinion, Don't know?”</p> <p>“Would you say the ad gave you good reasons not to smoke?” (Yes, No)</p> <p>“Would you say the ad makes you question the motives of cigarette companies?” (Yes, No)</p> <p>“Did you talk to your friends about this ad?” (Yes, No)</p> <p>From the Legacy Media Tracking Survey</p>
Comments	The selection of appropriate questions for measuring salience depends on what the study is most interested in understanding. Question sets, as opposed to individual questions, are typically necessary to understand this construct. The examples provided here measure slightly different issues: was the message noticed and did it “create a buzz” versus did the message impart information that was integrated into the respondents thinking on the topic.
<p>LMTS: Legacy Media Tracking Survey ITC: International Tobacco Control Policy Evaluation Study GATS: Global Adults Tobacco Survey GYTS: Global Youth Tobacco Survey</p>	

Table 5.44 Measures to Assess Population Level Awareness and Knowledge of Public Communication Campaign Paid or Mass Media Components

typically commercial advertising and marketing campaigns, and they are competing for salience, relevance, and resonance with other efforts to promote behaviours and norms and control the terms of the policy debate. The success or failure, and the relative impact, of a public communication campaign will be dependent to some degree on what is going on in the larger information environment. This is particularly important for public communication campaigns focused on tobacco control issues. Tobacco and pharmaceutical companies use the same communication strategies,

including paid media, public relations, media advocacy, and (to some extent) community action to promote their products and perspectives. Monitoring and understanding the larger information environment allows public communication campaigns to adapt strategies to respond to or reflect the realities of this environment and better understand and document the challenges and constraints that threaten the success of a public communication effort.

Tobacco and pharmaceutical company communication campaigns can be monitored with

many of the same tools and indicators as a public communication campaign. However, key steps, processes, and information will be unavailable to public communication campaign planners and evaluators, such as the exact target and objectives of the campaign. For example, the target may appear to be youth, but is actually voting adults; it may appear to be smokers, but is actually policy makers; it may appear to be concerned adults, but is actually potential members of the jury. The objectives may appear to be preventing youth initiation or promoting adult

Construct: (a) Health Risks of Tobacco Consumption	
Measure 1: Awareness Adults	<p>"To what extent, if at all, has smoking damaged your health?" (Not at all, Just a little, A fair amount, A great deal)</p> <p>"How worried are you, if at all, that smoking will damage your health in the future?"</p> <p>"To what extent, if at all, has smoking lowered your quality of life? How worried are you, if at all, that smoking will lower your quality of life in the future?"</p>
Source	The ITC Project, 2007
Validity	Face validity.
Variations	
Comments	
Measure 2: Awareness Youth	<p>"Do you think cigarette smoking is harmful to your health?" (Definitely not, Probably not, Probably yes, Definitely yes)</p>
Source	GYTS, 2007
Validity	Face validity.
Variations	
Comments	
Measure 3: Knowledge Adults	<p>"I am going to read you a list of health effects and diseases that may or may not be caused by smoking cigarettes. Based on what you know or believe, does smoking cause the following (Yes, No to each question):</p> <ul style="list-style-type: none"> • heart disease in smokers • stroke in smokers • impotence in male smokers • lung cancer in smokers • lung cancer in nonsmokers from secondhand smoke?"
Source	The ITC Project, 2007
Validity	Face validity.
Variations	<p>As far as you know, are each of the following chemicals included in cigarette smoke? (Yes, No)</p> <ul style="list-style-type: none"> • cyanide • mercury • arsenic • carbon monoxide?" <p>From the International Tobacco Control Policy Evaluation Survey</p>

Table 5.45 Measures to Assess Population Level Awareness and Knowledge of Public Communication Campaign Messages

Comments	Depending on the purpose of the campaign and the selected key messages, questions will need to be modified to be relevant. As a baseline indicator, prior to campaign implementation (or as general surveillance), these measures estimate population level knowledge of health risks (but not perceptions of personal risk).
Measure 4: Knowledge Youth	“It is safe to smoke for only a year or two, as long as you quit after that? Would you say you... Strongly agree, Agree, Disagree, Strongly Disagree, No opinion?”
Source	Legacy Media Tracking Survey (LMTS, (http://americanlegacy.org))
Validity	Face validity.
Variations	“Do you think it is safe to smoke for only a year or two as long as you quit after that?” (Definitely not, Probably not, Probably yes, Definitely yes)
Comments	From the Global Youth Tobacco Survey
Measure 5: Addiction Awareness Adults	“Do you consider yourself addicted to cigarettes?” (Not at all, Yes–somewhat addicted, Yes–very addicted)
Sources	The ITC Project, 2007
Validity	Face validity.
Variations	
Comments	
Measure 6: Addiction Awareness Youth	If you started smoking regularly, do you think you could stop smoking anytime you wanted?” (Definitely yes, Probably yes, Probably not, Definitely not, No opinion)
Source	Legacy Media Tracking Survey (LMTS, (http://americanlegacy.org))
Validity	Face validity.
Variations	“Once someone has started smoking, do you think it would be difficult to quit?” (Definitely not, Probably not, Probably yes, Definitely yes)
Comments	Source: Global Youth Tobacco Survey

Table 5.45 Measures to Assess Population Level Awareness and Knowledge of Public Communication Campaign Messages

Construct	(b) Health Risks of Tobacco Smoke Exposure
Measure 1: Awareness Adults	“Do you think that breathing smoke from other people’s cigarettes is... Very harmful to one’s health, Somewhat harmful to one’s health, Not very harmful to one’s health, Not harmful at all to one’s health, Don’t know/Not sure?”
Source	GATS, 2007
Validity	
Variations	
Comments	The perception that environmental tobacco smoke (ETS) is harmful can be an important factor for gauging public support for tobacco control efforts. This question also can be an indicator of the effects of ETS education efforts.
Measure 2: Awareness Youth	“Do you think the smoke from other people’s cigarettes is harmful to you?” (Definitely not, Probably not, Probably yes, Definitely yes)
Source	GYTS, 2007
Validity	Face validity.
Variations	
Comments	The perception that environmental tobacco smoke (ETS) is harmful can be an important factor for gauging public support for tobacco control efforts. This question also can be an indicator of the effects of ETS education efforts.
Measure 3: Knowledge Adults	“Would you say that breathing smoke from other people’s cigarettes causes... (Yes, No to each question) [RANDOMIZE ORDER] ...Lung cancer in adults ...Heart disease in adults ...Colon cancer in adults ...Respiratory problems in children ...Sudden infant death syndrome?”
Sources	CDC Adult Tobacco Survey; 1987 National Health Interview Survey (http://www.cdc.gov/nchs/nhis.htm)

Table 5.45 Measures to Assess Population Level Awareness and Knowledge of Public Communication Campaign Messages

Validity	Face validity.
Variations	
Comments	These items can gauge the level of public understanding of the health effects of tobacco smoke on nonsmokers. Colon cancer is included in this series as an indicator for "over-reporting" in order to estimate the possible magnitude of over-reporting.
Measure 4: Support for Policy Adults	<ul style="list-style-type: none"> • In the indoor dining area of restaurants • In indoor shopping malls • In public buildings • In bars and cocktail lounges • In day care centers • In indoor sporting events and concerts <p>"... do you think that smoking should be allowed in all areas, some areas, or not allowed at all?"</p>
Source	GATS, 2007
Validity	Face validity.
Variations	
Comments	Programmatic focus and activities, the goals of the communication campaign, and the local jurisdiction will determine which environments need to be included in the survey and whether additional environments are added. Such questions provide information on attitudes towards restrictions on exposure to secondhand smoke; a measure of social norms.
Measure 5: Support for Policy Youth	"Are you in favour of banning smoking in public places (such as restaurants, buses, streetcars, trains, in schools, on playgrounds, in gyms and sports arenas, discos)?" (Yes, No)
Source	GYTS, 2007
Validity	Face validity.
Variations	
Comments	
Construct:	(c) Benefits of Quitting
Measure 1: Adults	"How much do you think you would benefit from health and other gains if you were to quit smoking permanently in the next 6 months?" (Not at all, Slightly, Moderately, Very much, Extremely)
Source	The ITC Project, 2007
Validity	Face validity.

Table 5.45 Measures to Assess Population Level Awareness and Knowledge of Public Communication Campaign Messages

Variations	<p>“If a person has smoked a pack of cigarettes a day for more than 20 years, there is little health benefit to quitting smoking.”</p> <p>(Strongly agree, Agree, Disagree, Strongly disagree, Don't know/Not sure)</p> <p>Used by CDC Adult Tobacco Survey; COMMIT evaluation</p>
Comments	Recognition of the health benefits of cessation may be an important determinant of quit attempts, and an early indicator of the effects of health education efforts.
Measure 2: Youth	<p>“What was the main reason you decided to stop smoking?” (SELECT ONE RESPONSE ONLY)</p> <p>a. I have never smoked cigarettes</p> <p>b. I have not stopped smoking</p> <p>c. To improve my health</p> <p>d. To save money</p> <p>e. Because my family does not like it</p> <p>f. Because my friends don't like it</p> <p>g. Other</p>
Source	GYTS, 2007
Validity	Face validity.
Variations	
Comments	Recognition of the health benefits of cessation may be an important determinant of quit attempts, and an early indicator of the effects of health education efforts.
Measure 3: Awareness of Specific Resources	“Are you aware of assistance that might be available to help you quit smoking, such as telephone quitlines, local health clinic services, and...?” (Yes, No)
Source	GATS, 2007
Validity	Face validity.
Variations	<p>“In the last month, that is, since [date], have you noticed any advertisements for stop-smoking medications?” (Yes, No)</p> <p>Used by the International Tobacco Control Policy Evaluation Survey</p>
Comments	The “?” refers to (and should be replaced by) locally specific help promoted in the specific communication campaign. Awareness of smoking cessation resources increases the likelihood that smokers will make quit attempts. Information on the reach of interventions enables states to assess and improve the delivery of available resources.

Table 5.45 Measures to Assess Population Level Awareness and Knowledge of Public Communication Campaign Messages

Construct	(d) Tobacco Industry – Awareness and Knowledge
Measure 1: Adults	<p>“I am going to read you some statements about tobacco companies. Please tell me if you strongly agree, agree, neither agree nor disagree, disagree or strongly disagree with each of the following statements:</p> <ul style="list-style-type: none"> • Tobacco companies should be allowed to advertise and promote cigarettes as they please. • Tobacco products should be more tightly regulated. • Tobacco companies can be trusted to tell the truth about the dangers of their products. • Tobacco companies should take responsibility for the harm caused by smoking. • Tobacco companies have tried to convince the public that there is little or no health risk from secondhand smoke. • The government should do more to tackle the harm done by smoking. • The government doesn’t really care about people smoking because it makes so much money from tobacco taxes.”
Source	The ITC Project, 2007
Validity	Face validity.
Variations	
Comments	<p>Recommended for use as single items when space is limited:</p> <ul style="list-style-type: none"> • Tobacco companies can be trusted to tell the truth about the dangers of their products. • Tobacco companies have tried to convince the public that there is little or no health risk from secondhand smoke.
Measure 2: Youth	<p>“People have different views about the issue of smoking and cigarette companies. How much do you agree or disagree with the each of the following (strongly agree, agree, disagree, strongly disagree): (RANDOMIZE ORDER)</p> <ul style="list-style-type: none"> • Cigarette companies should have the same right to sell cigarettes as other companies have to sell their products. Would you say you... strongly agree, agree, disagree or strongly disagree? • Cigarette companies lie. • Cigarette companies deny that cigarettes cause cancer and other harmful diseases. • Cigarette companies deny that cigarettes are addictive. • Cigarette companies have done some really bad things. • Cigarette companies try to cover-up all the bad things they have done. • I would not work for a cigarette company • The people who run cigarette companies know what they are doing is wrong • No other companies act as badly as cigarette companies. • I would like to see cigarette companies go out of business. • Cigarette companies target teens to replace smokers who die • Cigarette companies get too much blame for young people smoking. • Anti-smoking advertisements are no more honest than cigarette ads. • Cigarette companies should have the same right to make money as any other type of company. • The government should let companies sell whatever they want. • Cigarette companies try to get young people to start smoking • Cigarette companies target minority groups.”

Source	Legacy Media Tracking Survey (LMTS, (http://americanlegacy.org))
Validity	Established validity. Hersey <i>et al.</i> , 2005; Thrasher & Jackson, 2006.
Variations	
Comments	A five item scale measuring perceptions of the tobacco industry, based on “Cigarette companies lie,” “Cigarette companies try to get young people to start smoking,” “I would like to see cigarette companies go out of business,” “I would not work for a cigarette company,” and a fifth item “How much do you like cigarette companies?” (5 point scale: I like them a lot [1] to I don’t like them at all [5]) showed small but significant improvement following the introduction of anti-tobacco industry media campaigns in selected US states (Hersey <i>et al.</i> , 2005).

LMTS: Legacy Media Tracking Survey ; ITC: International Tobacco Control Policy Evaluation Study; GATS: Global Adults Tobacco Survey; GYTS: Global Youth Tobacco Survey; COMMIT: The Community Intervention Trial for Smoking Cessation

Table 5.45 Measures to Assess Population Level Awareness and Knowledge of Public Communication Campaign Messages

cessation, but the actual objectives are to cast the company in a sympathetic light, change adult opinions about the culpability of the company in promoting tobacco use, and reinforce policy maker opinions about the company as socially responsible. Pharmaceutical company campaigns may be more transparent than tobacco company campaigns; that is, pharmaceutical campaigns that appear to promote the use of a particular cessation medication may be attempting to do exactly that. Public communication campaign planners may want to respond directly to tobacco company campaigns by countering or exposing the main purpose of tobacco company messaging in their own public communication campaigns, and may want to build on, reinforce, or avoid direct competition with

pharmaceutical ads promoting proven cessation strategies. While tobacco and pharmaceutical companies have vastly greater resources to invest in marketing and communication, frequently public health programmes and governmental and nongovernmental organisations have access to channels that are off limits to tobacco companies (e.g. television and radio). Public communication campaign planners should avoid direct competition with tobacco companies, and instead utilize tools and strategies that give public campaigns the advantage (e.g. electronic media not available to tobacco companies and community action that exposes the human face of the tobacco tragedy).

To monitor the larger information environment, public

communication campaign planners and evaluators may include indicators of awareness of and receptivity to tobacco and pharmaceutical company advertising on the same population surveys used to monitor campaign indicators (Farrelly *et al.*, 2002, 2003b), as well as attitudes toward, salience of and perceptions, beliefs and behaviours associated with exposure to the tobacco or pharmaceutical company campaign. Reach and frequency of these campaigns may be gleaned, imperfectly, by identifying print advertising and calculating impressions, and monitoring the airwaves for the appearance of ads and calculating exposure based on observations of placement. Tobacco and pharmaceutical company public relations and media advocacy efforts may be monitored through

the same news media tracking systems and content analysis undertaken to monitor implementation and outcomes of the public communication campaign (National Cancer Institute, 2005, 2006). While exact quantification of tobacco and pharmaceutical company campaigns may be unnecessary (or impossible) to obtain, a realistic understanding of the content and purpose of these competing messages is essential to crafting a meaningful and relevant public communication campaign that will be effective in a cluttered and contentious information environment.

Summary and recommendations

This section provides a framework for developing, implementing, and

evaluating public communication campaigns. These multicomponent interventions seek to improve awareness and knowledge of tobacco-related issues with the intention of promoting individual behaviour change and support for and progress toward policy and social change. The purpose of evaluating these campaigns is to inform the development of effective campaigns, to identify and correct problems while the campaign is in process, and document the public health impact of the campaign. Core methods include testing campaign messages during the design phase, monitoring the reach of the campaign during implementation, and assessing core constructs, including awareness, knowledge, attitudes, beliefs, and support for policies

and tobacco-related behaviour change. The measures described here, like the campaigns themselves, need to be customized to the specific content, purpose, and message of the communication effort being implemented.

Regardless of the results of the public communication campaign (and particularly if it failed to show results), evaluations should be made publicly available. A system to collect and document campaign results would enhance our understanding both of how public communication campaigns work and how to make them better.