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Using previous social marketing efforts to assess a new program
The case of shelterbelts

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Abstract

Purpose – This paper aims to report a research approach that explores how to use evaluations of previous social marketing efforts to assess and guide a new shelterbelt program called Working Tree. By targeting farmers, this new program aims to gain benefits from enhancing and expanding on-farm tree shelterbelts on the Canadian prairies.

Design/methodology/approach – This paper uses a novel method that relies on secondary data from six completed social marketing cases as data for a comparative analysis with the new program. A conceptual framework is proposed and applied. This framework incorporates process and outcome indicators of evaluation, key dimensions of the rational choice theory and proven practices from experience.

Findings – Analysis suggests key parameters of the Working Tree program to be appropriate, with some modifications. However, limitations in the data also point to avenues for future research to deepen the authors' understanding of assessing a new social marketing program in the prelaunch phase. More research is needed on what works, where and why.

Research limitations/implications – The seven indices are a modest set for comparatives and are not exhaustive. Six selected cases are small samples that are unable to fully reflect the environmental nature of the new program; yet, they contained critical data for the comparative analysis. Financial data are not in constant dollars, which would be needed when further analysis is undertaken.

Practical implications – This paper illustrates the importance of the evaluation stage of the social marketing process. It demonstrates the practicality of being able to effectively draw upon previous evaluations to inform new program investors and social marketers at the prelaunch stage.

Originality/value – The conceptual framework and method present a novel approach to use evaluation data to guide new program funding and initiatives. It is offered with the hope that others might draw upon the ideas presented here and advance them.

Keywords Canada, Applied research, Assessment and evaluation, Novel analysis,
On-farm treed shelterbelts, Pre-launch social marketing program, Social marketing models,
Case study evaluation data, Rational choice theory

Paper type Conceptual paper

1. Introduction

The aim of this paper is to use outcome-based evaluations from previously completed social marketing programs to provide insight if a proposed program (Working Tree) might achieve

its objectives. This task is not without its challenges, as evaluations of programs have typically not received sufficient emphasis. The ideas put forth in popular social marketing planning models (Kotler and Lee 2008; Jones and Donovan 2002) use a stepwise process of research and planning, strategy design (target market, objectives and goals, marketing mix) and implementation and evaluation. In practice, however, the stages can receive different emphasis and be allocated varying levels of resources, often most noticeably in the last stage of evaluation. Too frequently, evaluation is not fully attended to and is underfunded, as Legardi (2015) concluded after reviewing social marketing efforts in Canada. A similar conclusion was drawn from the extensive review of social marketing research publications from 1998 to 2012 conducted by Truong (2014), as well as by others (Bloom and Novelli, 1981; Lefebvre, 1996). When properly completed, evaluations can provide insight for the next round of a program or campaign, inform practices and theories and provide a basis for funding and support of different future programs. Evaluation or the absence of evaluation forms the weak link in practice, and this absence has not received adequate attention in the academic literature.

Analyses of results – of what was achieved and with what resources – are the focus of investigation for this paper. Given the outcomes of previous efforts and cases, the present paper explores how such results might be used to help gauge if a new social marketing initiative, the Working Tree program, will be able to achieve what is proposed (i.e. its objectives). Such an approach is of great value, as it can inform social marketing program choices and key decisions before or in the early stages of a project's introduction. This approach provides an additional reason to complete program evaluations and share them.

After reviewing the literature and setting out our conceptual framework, we present the relevant background information on shelterbelts and the Working Tree program. This is followed by the research design, method and findings. The paper closes with discussion and conclusions.

Literature review and conceptual framework

In a recent review of social marketing efforts in Canada, Legardi (2015) concluded that insufficient evaluations of these programs were conducted. Not knowing what worked and did not is a concern, as these efforts can be instrumental in adding useful knowledge to both theory and practice. Recognizing the importance of evaluation and calling for it as critical requirements of a social marketing program are not new (Kotler and Lee, 2008). In fact, as early as 1971, Kotler and Zaltman (1971) advocated conducting evaluation before, during and after an intervention. By 2015, for example, evaluation activities are entrenched in principles of practice by practitioners, some calling for assessment during an initiative to enable necessary refinements to delivery and at the end as evidence regarding the extent the initiative creates the desired change (Center of Community Health and Development (CCHD), 2015).

Despite scholars and practitioners pointing to the importance of evaluation, there are several reasons why evaluations might not have received the full attention of social marketers. From a practical perspective, evaluation is often the last component of a program, and this is when funding can be scarce, particularly if there have been prior unexpected increases in costs. Evaluation of social marketing efforts can be problematic for other reasons as well, including the fact that a program may contain multiple interventions, thereby making evaluations challenging. While some interventions might be directly related to behaviors (e.g. residential water conservation), making evaluation fairly straightforward, other initiatives might be less tangible. For instance, interventions designed to pursue causes, ideas and notions that were being defined in the minds of the target audiences, possibly for the first time, may challenge even the most robust evaluation (Kotler and Lee, 2008).

In addition, when social marketing programs stretch over several years, it makes a cause-and-effect relation difficult to define and defend. Crawley and Koballa (1992) stressed that behavior change may be quick for some, while for others, change can be more time-consuming, and for some, it may not occur at all. To estimate the overall reach a program has achieved within its target audience, effect-size calculations can be required (Sawyer and Ball, 1981), but they might not be easy to compute accurately. All these unknowns and challenges can make evaluation of social marketing programs difficult, and conclusions about results in terms of the level of success can be inaccurate and perhaps merely anecdotal.

Besides the challenges of completing program evaluations, there are other reasons why these data might not be readily available. Weinreich (2011) suggested some evaluations were conducted for internal purposes only, while others were made public (e.g. as grey literature). Further, not all evaluations benefit from the extra investment to publish the results, reducing the incentive for this type of reporting.

This literature review points to the dearth of evaluation data for assessing a new program. In contrast, evaluation comes highly recommended in the practice of social marketing, including guides and tools (Kassierer and Mohr, 1998; National Social Marketing Centre (NSMC), 2010; Weinreich, 2011). Another less-mentioned reason to argue for the importance of evaluating and publically reporting on social marketing programs lies in its usefulness to assessing new programs. This is the realm in which this paper falls. Our contribution lies in developing and empirically examining a conceptual framework that uses evaluation data from social marketing programs to assess a new program at a prelaunch stage. Yet, what types of data would be most useful to accomplish this? We develop these ideas beginning with a suggested conceptual framework. As a result, this first iteration of the conceptual model can appear somewhat anecdotal; nevertheless, its trajectory is toward a more scientific basis.

Our conceptual framework builds upon data from program evaluations and equally importantly incorporates social marketing theory and practice from implemented programs (Table I). While Damschroder *et al.* (2009) constructed a 37-variable model to examine and explain program initiatives in relation to outcomes and theories while considering practices, their conceptual framework remained a proposal aimed at effective implementation, as they concluded with calls for more evaluation data. Given that evaluations were reported

| Social marketing evaluation | | Theory | |
Process indicators	Outcome indicators	e.g. Rational choice	Proven practices
–Geographical area –Program duration –# in target audience –# of people informed –# of people requested information	–Total cost of program (including from partners and in-kind) –Cost per person informed Cost per person requested information	*Aware* –Making target audience aware of a situation	–Lessons, principles and proven practices
		Engage –Providing information to create knowledge and understanding	–Lessons, principles and proven practices
–# people change behaviour	–Cost per person with changed behaviour	*Change* –Asking for a change and detecting the desired behaviour	–Lessons, principles and proven practices

Notes: – Dashed line indicates the rational choice model is used for the purpose of this paper. Other social marketing theories are not examined in this paper but need to be in subsequent efforts

Table I.
A Conceptual model of evaluation process and outcomes and social marketing theory and proven practices

infrequently in the literature, our framework was designed with data that would likely be most prevalent. As Legardi (2015) and earlier Hardeman *et al.* (2010) found, the most common results published regarding social marketing programs are process and outcome data from evaluations. Process evaluation indicators include how many people were informed and how many took part in or took advantage of a service or made requests for information (French, 2013). Often additional background data are needed to describe the program, such as the targeted geographical area, intended target audience(s), along with the duration of the program. Outcome evaluation indicators can account for both the short- and the long-term effects of the project. Such evaluation can include economic or financial considerations to determine value for money and return on investment assessments (Weinreich, 2011). This can be operationalized at the per person unit level, as cost per person informed, requesting information or changing behavior.

A second important aspect of our conceptual model purposefully links evaluation data with a social marketing theory or theories. Theories can be central to framing a program or strategy in social marketing, as well as informing practice and improving the effectiveness and efficiency of a program. After an extensive review of social marketing programs, Truong (2014) found it difficult to examine theories, in a large part because they were not made explicit or acknowledged. Similarly, after examining 24 distinct social marketing programs, Hardeman *et al.* (2010) presented two significant findings. First, even though a theory may have been cited, it was often not described in sufficient detail or made evident. Second, when evaluation was included, it largely reported on process and outcomes variables, and only a few studies demonstrated the use of a theory (e.g. theory of planned behaviors) to predict intention and behavior. This lack of theory testing in the literature limits the extension of our conceptual framework. While we recognize that an eventual goal is to include, test and build theory, at this time our framework remains underdeveloped in this regard.

Instead, our framework uses a popular theory of rational choice, albeit a modified version, for sake of demonstration and parsimony. Rational choice theories assume people make trades-offs between their beliefs about a behavior and the perceived value of that behavior. They weigh costs and benefits and create an expected value of the outcome and then decide whether or not to act based on the outcome of their calculations. As Brennan *et al.* (2014) reported, many of the related assertions about a rational model are based on long-term observations of economic data and replications over time. Underpinning a rational model is the belief that humans tend to follow rational thinking. Such models asserted human decisions as rational, logically planned, and implemented, usually after weighing the pros and cons. In the context of reducing residential water consumption, this model was operationalized via three stages:

- making the target audience aware of a situation;
- engaging them with information that created knowledge and understanding to assess their situation; and
- asking them to change and detect the desired behavior (Ashton, 1979).

These three stages of awareness, engagement and change inform our conceptual model and also reflect aspects of the diffusion of innovation model, albeit implicitly, by describing the intention of messages to reach a critical mass with innovators and early adopters and over time to reach the majority (Everett and Shoemaker, 1971).We return to this point when we introduce the social marketing program to be evaluated and its objectives, outcomes and measurement activities.

A further consideration of our framework involves incorporating proven practices. This section of the framework helps ground the assessment of a social marketing program in

terms of what has made previous programs successful; in short, what worked. A practice begins as a subjective interpretation based on what has happened and gains weight the more times it is observed. A practice begins to be referred to as "proven" when it can be replicated and continuously improved, coupled with implied new skills, new products, better ideas and more efficient processes (Kwiecien and Wolford 2001). Furthermore, proven practices need to be part of an organization, often indicative of one pursuing learning from doing and improving their impact.

For purposes of this study, proven practices represent observations and experiences from implementing social marketing programs in the past and sharing them with the intention of improving subsequent efforts. Brennan *et al.* (2014) suggested that a purpose of theory-led practices is to save money, time or effort and to be more successful than you might be otherwise. As we use evaluation data in assessing a new program, we expect to gain a better understanding of how to possibly integrate proven practices into our conceptual framework. Such integration represents another important contribution of our research.

Design of a social marketing program to be assessed

For more than a century, shelterbelts have been integral to directing winds on the prairies. Shelterbelts often combine bushes and trees that deflect winds upward and outward to create a sheltered area. These downwind sheltered areas reduce wind chill in winter to make for warmer gathering areas for cattle. In the summer, shelterbelts help crop producers by reducing evaporation and soil erosion (Kulshreshtha and Kort, 2009).

Shelterbelts have evolved from simply leaving a strip of unkempt vegetation to planting specific species and managing their growth. Today, plants are selected for such considerations as branch density, foliage, height and adaptability to field conditions including soil, topography, moisture and solar regimes. Shelterbelts, often stretching for miles, become integrated into farm operation. The planted strips of trees increasingly calculated to accommodate the growing size and turning radius of farming equipment. Benefits of these working trees include sheltering livestock and farm sites from cold winter weather, improving soil quality, reducing wind speeds and lowering soil erosion. Shelterbelts also work for society and are recognized for many ecological goods and services including enhancing biodiversity by creating animal habitat and replanting heritage vegetation, and they sequester carbon, reduce greenhouse emissions and add landscape aesthetics (Kulshreshtha and Kort, 2003). These researchers more recently (2009) estimated benefits from shelterbelts having a value across three Prairie Provinces of $140m largely derived from carbon sequestration, reduced soil erosion and to a lesser extent health values and aesthetics.

At the same time producers incur costs with shelterbelts. Initially, there is upfront investment of time in the selection of locations for trees, along with costs of buying and shipping trees and related vegetation, then the cost of planting. Periodic monitoring and watering are also required in the first several years, ensuring the planted material grows higher than the competing weeds. These maintenance costs, though modest, continue for a decade of more until the planted shelterbelt is sufficient in size to become working trees and realizing benefits for the farm operation for several generations.

Across the Canadian prairies, shelterbelts have a history reaching back to the 1930s. Planting shelterbelts hit a peak in the 1980s, as they helped manage soil erosion in drought conditions. But from the 1990s and onward, there has been a significant reduction in planting shelterbelts (Richards *et al.*, 2016). As the federal government stopped funding tree plantation and allocated fewer staff for advice, planting of new shelterbelts dramatically

declined. Some producers seem inclined to remove shelterbelts rather than experience ongoing annual costs and related risk in retaining, renovating and planting new shelterbelts. Certainly, new shelterbelts are an investment by one generation to benefit several future generations. As a result, the Working Tree program is a modern-day version of Hardin's (1968) tragedy of the commons but with a difference. Instead of individuals adding more animals to a common pasture (or common good), which over time may result in the pasture being destroyed because of overgrazing (Hardin, 1968), adding shelterbelts are mainly a benefit to society over their 40- to 60- year life cycle. However, by planting shelterbelts, individuals on private land are being asked to invest for the common long-term good. This creates a situation of intergenerational inequity (Beder, 2000), where producers invest in shelterbelts today with most of the benefits accruing to future generations. This situation is challenging, as without the producers' commitment and action they could easily jeopardize the success of any shelterbelt initiative. The imperative, then for the Working Tree program is to assist producers to recognize the importance of their contribution in planting and maintain trees which deliver benefits in the longer term which outweigh related short-term costs.

In Manitoba, one of the three Prairie Provinces in Canada, several stakeholders wanted to add more shelterbelts beginning in the southwest. With the goal of better understanding the relation between producers and shelterbelts, a working group was formed with the Rural Development Institute at Brandon University in association with the conservation authority and agriculture-forestry expertise from a government research station. After holding workshops with producers and surveying them (Ashton and Richards, 2014) and creating an inventory of shelterbelt locations in Manitoba (Richards *et al.*, 2016), a proposal was developed to continue to add more shelterbelts based on social marketing experiences and expertise and related on-farm environmental practices. Knowing there were short-term costs and long-term benefits with shelterbelts, the stakeholders wanted to be equipped with findings from several successful initiatives. They wanted to be confident when approaching a funding sponsor they had comparable examples of successful initiatives. As a result, they developed a draft proposal for a new Working Tree program, and they wanted it "tested" to see if it was investor-ready using comparisons with other programs.

The key objectives, outcomes and measures of the Working Tree program are highlighted in Table II. The first objective seeks to increase the number of producers using shelterbelts by recruiting upward of 10 producers per year for planting and/or renovating up to a total of 100 miles of shelterbelt among them. The second objective seeks to raise awareness and support for the use of shelterbelts. The key outcomes over a four-year time span include 5,000 website page views in the first year and 3,000 website page views in each subsequent year; over the four years, 14,000 website views, 2,000 video views of testimonials and thousands of contacts or impressions from online ads and social media and outreach activities (e.g. trade booth, direct mailings, posters, presentations, surveys). All these activities were expected to result in 100 applications for the Working Tree program. The overall funding request was $470,000. There were additional contributions from partners and producers of labor and equipment. Additionally, it was anticipated that the innovators and early adopters of shelterbelts would facilitate the diffusion of the program to the majority by sharing their results and promoting the program's benefits.

Research design and method
With the intent to link the evaluation of social marketing efforts with rational choice theory and augmented with proven practices, we framed our research question as follows:

Outcome	Measurement activity
Objective 1 of Working Tree program	
Increase the number of producers who have and use shelterbelts in their fields	
Renovate or plant shelterbelts with at least ten producers in the first year	Actual activity
Plant or renovate 100 miles of shelterbelt over four years	Actual activity
Objective 2 of Working Tree program	
Raise awareness about and support for the use of shelterbelts, including their benefits to producers and the environment	
Slowdown in the rate of shelterbelt removal	Follow-up survey
5,000 website page views in the first year	Website analytics[a]
750 video views in the first year	Website and YouTube analytics[a]
10 applications for subsidized trees in the first year	Applications received[a]
3,000 website page views in each subsequent year	Website analytics[a]
450 video views in each subsequent year	Website and YouTube analytics[a]
More than 100 applications for subsidized trees over four years	Applications received[a]

Notes: [a]An estimated 4,360 beef producers (or 62%) will be aware of the Working Tree program, and about 2,000 (or 25%) will assess the benefits and costs of shelterbelts for their operations

Table II.
Objectives, outcomes, and measurement activities of a new Working Tree program

RQ1. How can evaluations from previous social marketing efforts help gauge the likely success of a Working Tree program, at a prelaunch stage?

We addressed the objective by identifying and quantifying the key measures of this new, yet-to-be-launched social marketing program. In doing so, we drew upon the previously introduced conceptual model emphasizing process and outcome features with respect to the rational model. The key measures were interactions with target audiences in making them aware, engage with them which include the provision of information to assess the change opportunity, and the quantitative indicators to demonstrate the desired behavior change. Process evaluation indicators were important, such as clarifying and estimating size of the target market and the geographical scope and duration of this new program. Financial evaluation indicators such as amount invested were examined in a similar manner. These data enabled comparisons of process and outcomes with the selected cases.

Next, we selected social marketing programs with relevant data. The aim was to compare a sample of cases with data that paralleled the key measures from the yet-to-be-launched Working Tree program. An inventory of cases ($n = 102$) was identified from multiple sources, including scanning websites containing a collection of cases (e.g. community based social marketing site, National Social Marketing Centre), as well as key word searches of articles and books with social marketing cases (Kotler and Lee, 2008). As there was no uniform definition or practice of reporting evaluation of process and outcome results of social marketing programs, the challenge was to find a reasonable sample with adequate data. Through this selection process only six cases proved to have sufficient data for comparative analysis.

In addition, when reviewing the literature, we also wanted to inventory suggestions grounded in a know-how of doing or implementing social marketing programs. We have called these suggestions proven practices. Incorporating a comparison of proven practices with the Working Tree program, would help answer such questions from a funder to us or others, namely, given previous experiences with social marketing programs, is this one feasible? To help give insights to answering such a question, we organized the proven practices in relation to the rational choice model in the conceptual framework.

The analysis involved arraying the key measures of the Working Tree program in relation to the selected cases. Analyses of process and outcome indices were completed with selected cases, along with the proven practices from other experiences.

Six selected social marketing cases

The six cases were divided into national and local geographical target areas, with three featuring national programs and three more locally oriented programs (Table III). The three national programs included the Canadian Green Community (Green), which lasted seven years and retrofitted 700,000 homes for energy conservation at a cost of $8.1bn (Maynes, 2015). The other two national programs were in the USA, with Screening aimed at preventing colorectal cancer by increasing the already high participation rates of screening of men 50-80 years of age (Ekwueme *et al.*, 2014). This program spent US$162m over 12 years. The other national program was aimed at Youth (12 to 17 years) to stop smoking or not start (Holtgrave *et al.*, 2009). In two years, this program spent $324m and swayed 169,000 youth away from (a lifetime of) smoking and avoided all the related medical and personal costs.

All six cases realized desired changes, with three having environmental relevance – Green, Calgary, and Edmonton. None of the six cases had a provincial geography target, although three were national and three local. In terms of the target market, none of the cases explicitly targeted producers, though producers could have been included in the Green and Screening cases. All were multi-year, ranging from 2 to 12 years. Budgets were included for all cases.

The three local and smaller geographical cases included the city of Calgary, which spent 11 years signing up companies and encouraging their employees to consider greener transportation options. The proponents of this program invested about $50,000 annually, for a total of $500,000, and claimed they affected behaviors of more than 20,000 employees and

Selected cases	Brief description
Green Community Canada 2003-2010	National program. Retrofit residential houses to save energy using audits. Saving more increases the incentive (Maynes, 2015)
Cancer Screening USA 1999-2012	National program. Improve participation in prescreening for colorectal cancer. Already 60%, for men 50-80 years of age screened or going. Want to attract the other 40% or 13 million (Ekwueme *et al.*, 2014)
Anti-smoking Youth USA 2000-2002	National program targeting 43 million youth in the USA. A "truth" campaign for youth to quit smoking and to prevent them from starting. Averted US$1.9bn in medical costs. Youth smoking rates reduced 1.6% (Holtgrave *et al.*, 2009)
Commuter Challenge *Calgary*, AB 1990-2001	City-wide program. Sign up organizations to encourage employees to car pool, bike and walk more. Part of a national challenge (Winkler, 2001)
Local Motion *Edmonton*, AB 2008-2010	Park Allen neighborhood was a pilot for using low-energy transportation. Several city departments worked together (Hosler, 2011)
Adopt a Crosswalk *Kirkland*, WA 2007-2009	City-wide program. Improve public safety with pedestrians waving flags, as they cross at intersections with some of the highest pedestrian accidents and deaths (Social Marketing Services Inc., 2007)

Table III.
Brief description of the six selected social marketing cases

embedded the practice of alternative transportation in 40 companies for lasting benefits (Winkler, 2001). A second small social marketing program was launched in the neighborhood of Park Allen (Edmonton). It too was aimed at greening transportation and cost $440,000 (Hosler, 2011). Of the 2,090 neighborhood residents, 270 pledged and recorded their green miles over two years. In our third small case, Kirkland, a city in Washington State with 85,000 people, wanted to improve safety at intersections with high pedestrian–automobile accidents (Social Marketing Services Inc., 2007). This social marketing program spent US$60,000 in two years and engaged more than 400 pedestrians waving flags as they crossed at busy intersections. Notwithstanding there were data for each case, three cases were energy related (i.e. Green, Calgary, Edmonton) which could be considered environmental in a broad way but were not a direct match with the Working Tree program. However these three, along with the Kirkland case, involved immediate rewards which Working Tree did not. Although not yet formalized, the hope for the new program is to help producers by providing a subsidy or incentive related to the prices of trees. Both Screening and Youth had longer-term rewards, similar to the Working Tree program, but were not environmental in nature. In short, none of the six cases matched all outcomes of the Working Tree program. We will return to this important discrepancy when discussing the findings.

Key process and outcome measures of the Working Tree program in Manitoba, Canada
The key process and outcome measures of the Working Tree program used seven indices that were informed by our conceptual model. Three indices were financially based (total cost, annual spending, cost of evaluation). Another three indices characterized interaction with target audiences at three process stages of aware, engage and change. The final index addressed overall effectiveness of the program in terms of cost per changed behavior. Each of the selected cases was then compared with the Working Tree program across these indices. Finally, we examined proven practices from successful programs to see how best to integrate this knowledge into an assessment of the Working Tree program.

Overall, the duration of the Working Tree program was four years with a budget of $470,000. About 4 per cent or $20,000 was set aside for evaluation. It was hoped that an estimated 62 per cent of the 8,000 producers would become aware of the program, which would generate interest and engagement with more than 2,000 (> 25 per cent) of them. The goal was to have ten applicants agreeing to plant or restore a total of 100 miles of shelterbelts in Manitoba (approximately 1.3 per cent of all producers). The primary behavior change was planting and restoring shelterbelts on farms, rather than removing them. The average cost to bring about this change was estimated at $4,700 per applicant. The Working Tree program's seven comparative data indices discussed above are summarized in Table IV (Column 1).

To evaluate how the Working Tree program might compare to the selected cases, a comparison across the seven indices was undertaken. Table IV operationalized our conceptual model with the objective of assessing a prelaunch Working Tree program in relation to the six selected cases.

The first three indices indicate the magnitude of the investment in the social marketing programs. In terms of total amount invested, the Working Tree program ($470,000) was most comparable to the Calgary ($500,000) and Edmonton ($440,000) programs and involved a 30 per cent greater investment than the Youth national program ($324,000). The annual investment for the Working Tree program ($117/year) was most similar to the Youth case ($170/year) and about half as much as the next nearest case of Edmonton ($220/year). Only the Youth and Edmonton cases had data on cost of evaluation. The 4.3 per cent of the overall budget that was set aside for evaluation of the Working Tree program fell between

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Table IV.
Seven indices for comparing the working tree proposal with the six selected cases

Background data and indices for comparison	Working Tree proposal	National social marketing cases			Local social marketing cases		
		Green	Screening	Youth	Calgary	Edmonton	Kirkland
Background data							
Behavioral change	Plant trees	Conserve energy	Prescreening	Quit smoking	Green transport	Green transport	Safer cross walk
Geography	Manitoba	National	National	National	Local	Local	Local
Duration (years)	4	7	12	2	11	2	3
Audience	Farmers	Homeowners	Patients	Youth	Commuters	Commuters	Pedestrians
Seven Comparative indices							
Total ($1,000)	$470	$8,150,000	$162,260	$324	$500	$440	$60
Average/year ($1,000)	$117	$116,428	$13,521	$170	$45	$220	$20
Evaluation % of Total	4.3	NA	NA	3.7	NA	6.8	NA
Awareness % of Total	62	NA	60	NA	NA	NA	8.6
Engaged % of Total	26	6	40	0.3	0.1	38	2.8
Changed % of Total	1.3	5.3	5	0.4	2.2	12.9	0.5
$/unit changed	$4,700	$11,643	$94	$1,908	$25	$1,630	$137

Edmonton (6.8 per cent) and Youth (3.7 per cent). In comparison to Calgary, Edmonton, and Youth, the investment for the Working Tree program appeared mid-range. The data from the first three indices suggested that the Working Tree program appeared feasible.

The three process indices assessing the Working Tree program were compared to the six cases. In terms of Awareness, only two cases reported data. The new program (62 per cent) was more comparable to the national Screening (60 per cent) program than to Kirkland (8.6 per cent). Data for the engagement and change stages were available for all six cases. Engagement refers to specific metrics associated with each program. For example, in the case of shelterbelts, engagement was measured by estimating the number of producers who provided information from such sources as viewing testimonial videos or Web pages. In the case of Green, engagement was measured by the number of energy audits. For Engagement, the new program (26 per cent) was similar to the highest-performing programs of Edmonton (38 per cent) and the national Screening (40 per cent). The other three cases engaged the target audiences considerably less, ranging from less than 1 per cent to 6 per cent. All the effort and investment in the cases aimed at bringing about changes in behaviors. The new program estimated that 1.3 per cent of the target population will change behavior. This compared to the Calgary (2.2 per cent) case. Among the five other cases, three had higher results in bringing about change in the target audience (Edmonton 12.9 per cent, Green 5.3 per cent and Screening 5 per cent) and two had lower results (Kirkland 0.5 per cent and Youth 0.4 per cent). This analysis suggests mixed results across the three process indices of awareness, assessment and change.

The seventh and final index assesses effectiveness based on the total investment in relation to the ultimate result, which was the change in behaviors. The new program with an estimated investment of $4,700 per changed producer was greater than five cases and was about a third less than the highest case, Green ($11,643). With an average $2,556 investment per unit changed among all six cases, the Working Tree program appeared costly at nearly twice that average. Caution is necessary in interpreting these results owing to the large variation in cases that the program was being compared to and the difference in benefits gained or sought.

Overall, assessing the Working Tree program with the six cases indicated mixed results. The new program compared to Calgary, Edmonton and Youth for investment performance considerations. In terms of process indices, the new program compared to the Screening program at the awareness stage (62 vs 60 per cent) and both Screening and Edmonton at the engagement stage (26 vs 40 and 38 per cent). At the change stage, the new program compared to the lowest of cases, Calgary and Kirkland (1.3 vs 2.2 and 0.5 per cent). With a total investment in the new program comparable to Calgary and Edmonton ($470,000 vs $500,000 and $440,000), the new program had the second-highest cost per unit change ($4,700 vs $11,643 for Green), suggesting that the targeted number of producers at the Change stage (at 100) may be an underestimation.

Assessing the new program with proven practices

In addition to the comparison based on the seven indices, proven practices could be used to inform an assessment of the overall Working Tree program. For an investor, these practices can be used as a guide to formulate questions regarding a new program at the prelaunch stage.

The rational choice model was used in terms of three stages of awareness, engagement and choice. The Working Tree program also included a design and launch stage and a monitor and evaluate stage. Some liberty has been taken to align and distribute 31 proven practices in relation to these five stages of the Working Tree program. As many authors described the process as iterative and cyclical [Center of Community Health and

Development (CCHD), 2015; French, 2013; Mohr *et al.*, 2012; NSMC, 2010], the five stages of successful social marketing programs with 31 proven practices are not numbered but are rather simply listed as follows:

(1) Stage: Design and launch (9 points)

- learn from successful social marketing programs for planning and ongoing inspiration;
- plan for an evaluation early on;
- address program administration, e.g. hire a dedicated and experienced leader; design a robust well-informed program plan; gain support from senior management and partners; allocate resources effectively and efficiently;
- identify, analyze and focus on a target market and audience that is ready;
- identify barriers of the target audience;
- emphasize aspirations and benefits that are real to the target audience;
- use clear messages across the range of stages, e.g. awareness, assessment, change;
- have fun with the message to get noticed; and
- incorporate popular digital media.

(2) Stage: Awareness (6 points)

- to distribute message, use many media that are key to target audience and community;
- create awareness and interest in a way that makes the behavior relevant to the audience;
- promote doable behaviors to audiences and involve wider community;
- state real benefits that are the most meaningful to the target audience;
- highlight costs of continuing existing behavior and savings of preferred behavior to audience; and
- make small incentives easy to see.

(3) Stage: Engage (6 points)

- make it easy to engage and show commitment;
- give incentives to people, then ask them to work hard to achieve a goal/ behavior change;
- communicate a decision point; seek a commitment to change behavior;
- get commitments and pledges for actions that reflect preferred behavior;
- create teams from those making a commitment and support teams to change stage; and
- motivate people to form an intention to change behavior.

(4) Stage: Change (3 points)

- clarify what change is needed in terms of attitudes, conditions and actions that emulate the desired behavior;
- use prompts and incentives for ongoing reminders and to promote the importance of the new behavior;
- capture and share experiences, including those that worked for others, and feature those from the target audience.

(5) Stage: Monitor and evaluate (4 points)

- reinforce behaviors with prompts to prevent backsliding into previous behaviors;
- track activities, report results regularly;
- adjust the program as needed; and
- celebrate big and small achievements for all stages.

Adapted from: Brennan *et al.* (2014); Center of Community Health and Development (CCHD), (2015); French (2013); Mohr *et al.* (2012); NSMC, (2009); Weinreich (2011).

Also, these practices, while not exhaustive, were often repeated among several sources, while a few have been rephrased in relation to this assessment of the new program. Furthermore, while regulations or new laws can be an important part of a social marketing initiative (French, 2013), the legal and public policy aspects of social marketing programs were not inventoried, as they typically reach beyond the authority of such programs. However, they may need to be taken into consideration as well.

Examining the proven practices gleaned from experience and experts, we make three observations in relation to the specific outcomes of the Working Tree program (as noted in Table II). First, several suggested practices aligned with the objectives and outcomes of the new program. Overall this suggests that the design of the Working Tree program takes into consideration "proven practice". Second, the idea to use evaluation to assess a new program at its prelaunch stage is reflected in proven practices. For example, in the design and launch stage, practices called for learning from other successful efforts and planning for evaluation early. The practice of reporting regularly in the monitor and evaluation stage would be useful to provide data that could be incorporated in the design stage of later programs, as we have suggested. Third, these practices suggested three sets of design considerations for the new program. First, during implementation consideration should be given to having fun with messages, using popular (digital) media, bringing attention to specific behaviors of retaining and planting new shelterbelts, and providing relevant incentives that remove barriers, such as the cost of trees. Another set of considerations suggested by the practices include clarifying specific behaviors for specific segments of the target audience (e.g. producers as a group of individuals, their spouses and family and the community) and identifying existing early adopters as champions of change. The aim would be to have these early adopters be change agents by demonstrating to others the uses and benefits of working trees on farms. This could be a powerful method to overcome barriers to adopting shelterbelts by others (early/late majority). A third set of considerations required more details about the actions to sustain the change with positive reinforcing messages and to prevent a return to the "old ways" (Pettie and Pettie, 2009). All three sets of considerations could be included in the Design stage and later implemented with appropriate budget.

Limitations and future research
Based on our research, three important considerations, limitations and guidance for future research are discussed below. First, in terms of considerations for internal consistency, how well do the selected six cases compare in terms of the selection criteria, based on Table IV?

To answer this question we compared the target audiences, geographical scale and duration of the programs and budget to determine the degree of internal consistency. The Green, Calgary and Edmonton cases were similar to the new program in relation to the target audience being an environmental citizen (Mohr, 2010). However, these three cases were about saving energy, which is different from the new program which was about

planting and saving trees on farms. While the national cases likely involved rural residents, no case had a rural target audience as did the new program. Geographically, the cases focused on national or local (urban) areas, and no case mirrored the provincial territory of the new program. When looking at all six cases as a group, their average duration was six years, which is somewhat comparable to the new program at four years. Among them, three cases had 2- (Youth, Calgary) and 3-year durations (Kirkland), and three continued for longer, eg. 7 years (Green), 11 years (Calgary) and 12 years (Screening). Edmonton ($440,000) and Calgary ($500,000) cases had budgets similar to the new program ($470,000). Based on these selection criteria alone (Table IV), the Green case was the closest matched with three criteria: a focus on environmental citizenship, duration of seven years and a target audience of homeowners, where some must have been rural residents, even producers. Both the Edmonton and Calgary cases could be considered a close second, as they too involved environmental citizenship changes and had similar budgets to the new program. Using only the background data, none of the six cases individually or collectively matched with the Working Tree program. Furthermore, because of the general lack of published evaluation information on the cases, it was not possible for the results to be more specifically calibrated to inform the assessment of the new program. In short, caution needs to be applied before making conclusions from these comparisons.

Second, in terms of limitations, we consider construct validity of the conceptual model, asking the question of: How well does the empirical evidence from the cases reflect the theoretical aspects of the rational choice model? This question probes the importance of adequacy and appropriateness of any inference we offer. Thus, key limitations of the data are explained and include context of the cases, nature of the behavioral change and social marketing program.

There was considerable variation in the seven indices across all six cases (Table IV). One explanation is related to the context of each case, be it the geographical scale or target audience. The measures do not consider the varying challenges of context, including reaching out to dispersed rural populations for the new program as compared to the difficulty of being noticed among the layers of informational noise often associated with the challenge of communicating in urban areas (Damschroder *et al.*, 2009), as was the challenge for both national and local cases. At a minimum, the rural and urban context would have a direct effect on the potential size of the target audiences. In our model (Table IV) while reporting the differences in the target audiences, we tried to address this limitation by using percentages for the seven comparative indices. This statistic helped to create a more comparable measure.

By using statistics to help characterize the cases for comparison, another limitation of the indices was evident as it related to interpretation. How can the amount of engagement and change be compared across social marketing programs? For example, 26 per cent of the population being engaged in the Working Tree program could be better than 38 per cent engagement in the Green case, if it is out of a greater population. Similarly, the variations across the indices may well result from the nature of change one tried to bring about. Is it more difficult to catalyze life-altering behaviors such as quitting smoking vs taking an action on behalf of the environmental commons, such as the Green, Calgary or Edmonton cases or the Working Tree program? Such questions are not easily answered but are important as one refines our model and when designing a social marketing program.

In terms of social marketing programs, another limitation was apparent, which may explain some of the variations in the indices. For example, four of the seven indices of the conceptual model were economic in nature, and three were theory-led based on the rational choice model. These specific indices reflected the limited data that was available. Certainly

other indices would be needed to more fully explain each case. For example, neither the Working Tree program nor the cases made mention of activities needed to sustain the desired impact. In social marketing programs seeking lasting behavioral change, it is often not the mere fact of initial engagement that is critical (though that matters), but rather the reality of what is needed to sustain that change becomes the focus of the last stage of monitoring and evaluating (Pettie and Pettie, 2009). Yet as noted in Table IV, only Youth and Edmonton had reported an evaluation budget. As with all the data reported, it is assumed to be accurate, and realistically some data among the cases may have been estimates only. For the authors, this limitation of data, let alone accurate data, underscores what appears to be a more systemic lack of publically available program evaluations reports.

Another reason why there would be variation in the indices would directly relate to variation among the processes or practices used across the cases. Specifics about processes or implementation practices were not readily available and may hold an important contribution to the variation. However, our comparatives would benefit from different processes and practices, as we seek to know, in general, can completed social marketing programs inform the assessment of a new program at the prelaunch stage. As we were not able to identify similar cases to the Working Tree program, the strategy was to maximize diversity among the cases to support our inferences.

At one level these seven indices enabled a comparison among the cases with limited data from each. At another level, it is difficult to assess if the degree of change that a program brings about is sufficient. From the brief descriptions of cases (Table III), only the Screen and Youth cases included measured end goals, while the other cases reported no goal. Screening wanted to attract 40 per cent or 13 million men 50-80 years of age, and they made 60 per cent of the target audience aware, engaged with 40 per cent, and changed 5 per cent. The youth program wanted 1.6 per cent or 688,000 to stop smoking among the targeted 43 million youth. No numbers were available for awareness of the youth, though the program engaged 0.03 per cent and after two years changed 0.04 per cent or 169,800 youth. Of importance to this discussion, the conceptual model by way of these two cases indicated achievements at three stages. However, with no data on four cases, no comparisons were possible, and the reader is left not knowing if the outcome at each stage represents what was expected or needed, or why a goal for the changed behavior was not set. More data and information were needed. We recognize that this call to access data was self-serving, as it was needed to move this conceptual model ahead; yet equally important, more data will contribute to filling in knowledge gaps about the basic process and outcomes of social marketing efforts.

Third, in terms of proven practices for social marketing programs, we note the following. Many practices were a result of specific cases by the six references cited in text. Yet, these practices seem to remain in the realm of observations. They were not formulated into a theory or functional relationships, as Brennan *et al.* (2014) advocated nor were they apparently a result of rigorous and ongoing testing by a community of practice among social marketing practitioners as Kwiecien and Wolford (2001) argued. For example, what if one or more of the practices were not followed – does that spell failure of a particular stage or jeopardizes the program? Or if they were followed, does this "guarantee" success of a program? The proven practices fell short of the confidence of an elegant and efficient algorithm leading to successfully changing behaviors. The counter argument to a "formula of success" would be that social behavior is complex and not easily changed nor easily captured by a set of practices or a theory. If true, this underscores the importance of including key results coupled with theories that can be used to test specific hypotheses. Such

inclusion would contribute to larger efforts of refining our theories and assumptions. In addition, as many social marketing programs stretch over multiple years, another question arises: Are there other sets or variations of these practices to guide the iterations across several years and/or campaigns? Some of these issues about practices and changing behavior are not new, as they have been reported in social marketing guides and tools (French, 2013). However, they point to a need to further refine an approach to discerning and vetting practices. This suggests revising a conceptual framework to include the know-how from proven practices at least as a point of discussion between new program advocates and investors.

Conclusion and implications

This research sought answers to the question: How can previous social marketing efforts help gauge a prelaunch assessment of a Working Tree program? We found that while there may be different ways to respond to this question, none offer a straightforward answer. Using the case-based approach that was adopted here led to some challenges. For example, it would be necessary to ensure that there are sufficient cases that are similar enough to the new program. Equally important would be the ability to access data to calculate meaningful indices describing key measures to help gauge the probability of success of a new program. These could then be reinforced with alignment and/or incorporation of proven practices. All of this calls for an increased emphasis on evaluating and reporting social marketing cases with sufficient detail and transparency. Templates of suggested formats to report key indicators and quantified objectives might be suggested by researchers and policy makers. As well, case study reporting could be more actively encouraged by government agencies and funders which join the voices of practitioners.

In conclusion, this paper outlined a novel approach to evaluating the likely success or failure of a new, yet-to-be-launched Working Tree social marketing program. The approach used key measures of previously completed social marketing programs as a benchmark or guide in assessing the likelihood of success of this new program. In doing so, this research confirmed the lack of evaluation as widespread, consistent with the literature. This paper adds another voice to champion the importance of integrating evaluation and theory-based outcomes. Reporting on evaluation would also be an important consideration for investors seeking evidence-based decisions at the prelaunch stage of a program.

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