© Copyright 2016

Nicholas Fradkin

Identifying and overcoming barriers to raising funds from individuals for tobacco prevention

Nicholas Fradkin

A thesis

submitted in partial fulfillment of the

requirements for the degree of

Master of Public Health

University of Washington

2016

Committee:

Abigail Halperin (Chair)

Sarah Ross-Viles

Aaron Katz

David Suárez

Program authorized to offer degree:

Public Health - Health Services

University of Washington

Abstract

Identifying and overcoming barriers to raising funds
from individuals for tobacco prevention

Nicholas Fradkin

Chair of the Supervisory Committee:
Abigail Halperin, MD, MPH, Senior Lecturer
Department of Health Services

Introduction: Nonprofit tobacco prevention programs receive a level of public support that is disproportionately low to the burden of tobacco-related disease and death in the United States (US). Individual donors' recent emphasis on the importance of measurable results and cost-effectiveness is particularly conducive to funding opportunities offered through evidence-based tobacco prevention programs. The American public's perception of tobacco prevention as a cause worth funding through individual donations has yet to be researched.

Methods: An online survey asked randomly-selected participants about their charitable giving motivations, assessed their knowledge of tobacco use and lung cancer as leading causes of death in the US, and inquired about their perceptions of tobacco prevention programs as potential funding opportunities. Respondents were segmented by demographic characteristics, knowledge

of tobacco use and lung cancer, and charitable giving motivations to inform the analysis of barriers to raising funds from individuals for tobacco prevention.

Results: Survey responses from 245 individuals suggest that other giving priorities, the perception of tobacco use as a choice, and a lack of awareness of relevant organizations are the main barriers to raising funds from individuals for tobacco prevention. Approximately three in four respondents correctly named smoking as the cause of most lung cancers, and a similar proportion was receptive to the possibility of donating to an organization working in tobacco prevention. One third of these respondents reported that more information about such organizations and/or the results of their work might make them more likely to support such programs, particularly those that educate children about the harms of tobacco use.

Discussion: Nonprofit organizations working in tobacco prevention could augment public support of their programs by reframing the issue of tobacco use, appealing to cognitive and emotional donor motivations, and leveraging innovative programs. By correcting misperceptions about the consequences of tobacco use, as well as characterizing tobacco dependence as an addiction that inhibits the choice of tobacco users, these organizations may be able to help accelerate progress in domestic tobacco prevention efforts.

TABLE OF CONTENTS

Introduction

Tobacco use has been the leading cause of preventable disease and death in the United States (US) for decades.[1] While the American public recognizes the hazards of smoking, nonprofit tobacco prevention programs – relative to other disease prevention and treatment programs – receive disproportionately low funding from individuals relative to the share of human morbidity and mortality they aim to prevent. Moreover, large foundations, including Bloomberg Philanthropies and the Bill & Melinda Gates Foundation, make up the bulk of this funding, while nonprofit organizations with fundamentally similar visions are able to attract more small donations that comprise large segments of their revenues.

Nevertheless, domestic tobacco prevention is primarily funded and facilitated by government. Tobacco product excise taxes at the federal, state, and local levels generate revenues that are directed to tobacco prevention programs, in varying amounts. Additionally, the Master Settlement Agreement (MSA) of 1998 availed over 200 billion dollars to 46 states to compensate for public healthcare costs attributable to tobacco use. However, state legislatures divert large proportions of these funds to unrelated programs.

A prevailing trend in American philanthropy is the funding of programs that can demonstrate effectiveness, and can do so using quantifiable outcomes. Tobacco prevention features some of the most effective, evidence-based interventions in public health, including youth education, tobacco cessation, and tobacco policy advocacy. As strong, quantitative predictors of future morbidity and mortality, tobacco prevalence rates are reliable indicators of progress. Therefore, tobacco prevention represents a particularly advantageous opportunity for donors to make a substantial, measurable impact on both human longevity and quality of life.

The aims of this research are twofold:

1) To identify the barriers that nonprofit organizations face in raising funds from individuals for tobacco prevention programs; and
2) To propose strategies for these organizations to improve their fundraising potential for tobacco prevention programs.

Hypothesized barriers include:

- A lack of knowledge about tobacco use and its relationship to lung disease;
- The perception that tobacco prevention is sufficiently funded (e.g., the crowd-out hypothesis);
- A lack of awareness about nonprofit organizations working in tobacco prevention; and
- The perception that tobacco prevention is incompatible with charitable giving motivations.

To inform these hypotheses, the following literature review describes tobacco use and its health consequences, tobacco prevention as an underfunded cause in the US, and research on charitable giving motivations. Methods and results of a mixed-methods study follow, and strategies for improved fundraising potential are recommended.

Literature review

Prevalence and consequences of tobacco use in the US

Tobacco use is the leading "actual" cause of death in the US[2], attributable to approximately one in every five deaths.[3] The most common tobacco-related morbidities are cardiovascular disease, cancer, and chronic obstructive pulmonary disease[4] – which are also the three overall leading causes of death in the US.[5] Tobacco is now causally linked to cancers of twelve bodily sites[6], and smoking causes 32 percent of *all* cancer deaths in the US.[7] Nearly a half million people still die from cigarette smoking, annually, in the US.[8] People who smoke lose approximately one decade of life expectancy.[9] Although US adult cigarette smoking prevalence has dropped from 43 percent in 1965[10] to 17 percent in 2014[11], the American smoking population is increasingly composed of people of color[12], sexual and gender minorities[13], people of low socioeconomic status[14], and people with mental illness.[15]

Most conspicuous of the tobacco-related morbidities is lung cancer, which was virtually non-existent prior to the advent of the commercial cigarette.[16] Eighty percent of lung cancers are, indeed, caused by cigarette smoking, but the incidence of lung cancer has been falling since the early 1990s[17], largely due to the tobacco control efforts following the release of the US Surgeon General's Report in 1964.[18,19] The average age of a lung cancer patient at the time of diagnosis is 70 years.[20] Since lung cancer is the second-most commonly diagnosed cancer and most patients die within a year of their diagnosis, the prevalence of lung cancer is relatively low.[21,22] In 2016, almost one-third of cancer deaths will be from lung and/or bronchus cancer, more than the total number of deaths from all digestive system cancers, and nearly four times as many deaths from breast cancer.[23] The extent to which prospective donors are knowledgeable about the prevalence and consequences of tobacco use is unknown, and may be a barrier to raising money for tobacco prevention.

Tobacco prevention

Tobacco use interventions are among the longest-standing and most well-researched in public health, ranging from youth education to adult cessation and – for several nonprofit organizations – policy advocacy. Farrelly et al. concluded that state tobacco control programs and smoke-free air laws are effective strategies for deterring smoking.[24,25] Wilson et al. reviewed four longitudinal studies demonstrating that mass media campaigns decreased the odds of smoking initiation to 0.67-0.80.[26] However, tobacco prevention is not immune from the challenge of attributable outcomes measurement, the conditions for which are "uncommon in the social sector."[27] Measuring outcomes of tobacco education is difficult because success of such prevention efforts is "invisible," in that it is virtually impossible to measure a given individual *not* taking up tobacco.[28] By contrast, an individual quitting tobacco is a more observable

outcome to report and measure, even though those who try to quit are far more likely to relapse than maintain abstinence with a given quit attempt.[29] People who manage to quit smoking prior to the age of 40 reduce their risk of death attributable to smoking by approximately 90%.[30] This finding relies on age-specific survival probabilities of "never smokers," so – in this sense – it is possible to approximate the life "gained" by never smoking.

Attribution remains a challenge for evaluating initiation prevention efforts, but tobacco cessation programs offer measurable, attributable, and cost-effective outcomes.[31] The cost-effectiveness of cessation interventions is typically reported in terms of cost per quit, or is extrapolated into cost per life-year (LY) and/or quality-adjusted life year (QALY) saved/gained. A brief review of the available literature suggests that the cost per quit can range from $11 for a basic online intervention assuming "optimal" adherence[32], or as high as $2,467 for brief counseling with nicotine replacement therapy (NRT).[33] Other studies calculate the incremental cost per QALY gained from an intervention, which ranges from $972 for an extended course of varenicline (e.g., Chantix)[34], to $1,258 for an intensive intervention with community care.[35] The CDC Tips From Former Smokers television advertisements yielded cost-effectiveness ratios of $480 per quitter, $393 per LY saved, and $268 per QALY gained.[36] Finally, a study of a comprehensive high school tobacco prevention program estimated a cost per LY gained of $3,942.[37]

Tobacco prevention as a market failure

The survival of tobacco as a consumer product amid extraordinary health hazards and cost-effective interventions renders tobacco prevention a market failure, or an "inefficient allocation" of tobacco prevention activities.[38] The tobacco industry has contributed to this market failure by maintaining asymmetric information about health concerns between the companies

and their customers, creating "an unequal power relationship between experts and clients, which the former may exploit in their own interest."[39] Specifically, the industry has known about the causal relationship between cigarette smoking and lung cancer since the early 1950s. At this time, the major tobacco companies partnered on a sophisticated public relations campaign to cast doubt upon the scientific evidence linking cigarette smoking to lung cancer.[40] The facts that youth and young adults are more susceptible to nicotine addiction than their older counterparts[41], and that the vast majority of tobacco users want to stop using the products[42] suggest that the tobacco epidemic is not the result of individuals' informed choices to use tobacco. Rather, it is largely the result of an industry that spends $1 million per hour, on average, marketing its highly addictive products to specific populations.[43,44]

State governments derive significant revenues from tobacco, but only dedicate a fraction of these revenues to tobacco prevention, allowing this market failure to persist. In 1998, 46 State Attorneys General and the five largest US tobacco companies reached a Master Settlement Agreement (MSA), which – in addition to the industry paying the states approximately $10 billion, annually, to compensate for tobacco-related healthcare costs[45] – released internal industry documents that contradicted companies' previous claims that they do not market their products to youth and other vulnerable populations.[46] The bulk of state tobacco revenues come from cigarette sales; in fiscal year 2015, states earned $16.2 billion off of tobacco taxes[47], which are considered highly effective tobacco prevention measures.[48] However, only five states fund tobacco prevention at *half* or more of the best practice level recommended by the Centers for Disease Control and Prevention (CDC); the states will collect nearly $26 billion in MSA funds and tobacco tax revenues in 2016, but they will spend less than two percent of this amount on tobacco prevention, only fourteen percent of the total recommended funding level.[49]

Nevertheless, the idea that public funding tends to deter and displace private funding for causes, or the crowd-out hypothesis[50], may partially explain reluctance among individual donors to help prevent tobacco use. In any case, the legal sale of this inherently harmful product has resulted in a market failure to which government has inadequately responded. This, in turn, elevates the importance of the nonprofit sector for tobacco prevention.

The role of the nonprofit sector

Actors in the third, "independent" sector – the nonprofit sector – have worked to address the aforementioned market failure through various means.[51] In *On Being Nonprofit,* Peter Frumkin distinguishes between two economic rationales for the nonprofit sector. His demand-side theory states that "nonprofits exist because they are able to meet important social needs," such as intervention programs to treat drug addiction.[52] From this perspective, nonprofit organizations can fill the gap in tobacco prevention left by the private sector and government. The supply-side theory, on the other hand, states that the nonprofit sector is "impelled by the resources and ideas that flow into it—resources and ideas that come from social entrepreneurs, donors, and volunteers."[53] In this sense, nonprofit organizations are characterized as more proactive – addressing priorities set by those who support them. As most people who use tobacco are of low socioeconomic status and already have a demand for cessation services[54], it is the supply of resources and ideas that is lagging in nonprofit-driven tobacco prevention.

Frumkin's supply-side theory has become increasingly relevant in modern philanthropy. According to Ebrahim and Rangan, nonprofit organizations are "under growing pressure to demonstrate their impacts on pressing societal problems".[55] The concept of "social return on investment" (SROI) is relatively new and uniquely applicable to donors considering an "investment" of their money in a nonprofit tobacco prevention program.[56] GiveWell, an

organization that conducts "in-depth research aiming to determine how much good a given program accomplishes (in terms of lives saved, lives improved, etc.) per dollar spent," implicitly endorses SROI measurement.[57] In addition to cost-effectiveness, GiveWell uses three other criteria to determine its top charities: evidence of efficacy and scalability, room for more funding, and transparency.[58] Although GiveWell does not recommend a tobacco prevention organization among its top four charities, it cites a study that estimates funding for tobacco prevention efforts as "approximately an order of magnitude less per person who suffers (i.e., smokes) or dies than funding for HIV/AIDS, malaria, or tuberculosis."[59]

Current supply of nonprofit tobacco prevention

Roughly 20% of all private charitable contributions go to health and human services organizations[60], but the supply of nonprofit tobacco prevention funding – specifically – is not well defined. The National Taxonomy of Exempt Entities (NTEE) codes, which are used by the Internal Revenue Services (IRS) and National Center for Charitable Statistics (NCCS) to classify nonprofit organizations by their activities and purposes[61], may provide a rough estimate of the number of relevant organizations and current revenues. Three codes, in particular, pertain to tobacco prevention and lung disease. The counts and aggregate revenues of these organizations classified under these three codes are summarized in Table 1.

Table 1: Counts and Aggregate Annual Revenues of Tobacco Prevention & Lung Disease Organizations, by NTEE Category[62]

NTEE Category	Number of Registered Organizations	Number of Organizations Filing Form 990	Annual Revenue, as Reported on Form 990
G45 – Lung Diseases	120	71	$197,569,516
F52 – Smoking Addiction	38	20	$42,365,558
H45 – Lung Diseases Research	16	10	$1,997,465
Total	**174**	**101**	**$241,932,539**

There are a few limitations with these data. First, several lung diseases typically manifest without smoking or secondhand smoke exposure (e.g., cystic fibrosis), so these figures also

include organizations that work to prevent and/or treat those diseases. Second, organizations focused on lung *cancer* are grouped with organizations focusing on other cancers – with the exception of breast cancer organizations (G32), which outnumber lung disease organizations five to one, and have aggregate revenues in excess of $400 million.[63] While the American Cancer Society (ACS) represents more than one-third of revenues categorized under the broader NTEE cancer code (G30)[64], approximately seven percent of current ACS grant funding goes toward lung cancer research.[65] Furthermore, less than 20 percent of the organization's $632 million in 2014 program services expenses went toward cancer *prevention* – unequivocally the most certain means for reducing lung cancer incidence and mortality in the long-term – with the rest going to cancer patient support (44%), research (23%), and detection/treatment (15%).[66] Finally, several nonprofit organizations working in tobacco prevention fall under different and broader NTEE categories, such as Public Health (E70) and Substance Abuse Prevention (F21). NCCS/NTEE data likely overestimate funds intended for tobacco prevention, so more research is needed to define the supply of nonprofit tobacco prevention.

In the meantime, less than one percent of Americans name "smoking" as the most urgent health problem facing the nation[67], and private funders appear relatively uninterested in domestic tobacco prevention. The bulk of tobacco prevention funding comes from two large foundations: The Bill & Melinda Gates Foundation (Gates) and Bloomberg Philanthropies (BP), which have made tobacco prevention-related grants in excess of $150 million[68] and $600 million[69], respectively. In 2014, Gates made a $10 million grant to the Campaign for Tobacco-Free Kids (TFK), which advocates for stronger tobacco control policies in the US, but this grant was intended for the organization's international efforts.[70] Likewise, BP does not accept grant applications from agencies in high-income countries.[71] Since 1991, the Robert Wood Johnson

Foundation (RWJF) has made domestic tobacco-related grants in excess of $500 million[72,73], including over $113 million to TFK. Additionally, affiliates of the ACS, the American Lung Association (ALA), and the American Heart Association (AHA) received nearly all of the combined $99 million in RWJF funding for the RWJF Smokeless States® National Tobacco Policy Initiative from 1992 through 2005.[74] However, since 2009, RWJF has made no more than 10 tobacco-related grants per year, and between 2014 and 2015, tobacco-related RWJF grants totaled under $10 million.[75]

Individual donors' contributions to tobacco prevention

Individual donors can help fill the tobacco prevention funding gap left by government and foundations, and make a measurable impact on both human longevity and quality of life. Individual donors gave over $258 billion to charity in 2014, representing 72 percent of all charitable giving in the US – nearly five times as much as foundations' share – and are a potentially large source of support.[76] However, the unclear supply of nonprofit tobacco prevention funding may be symptomatic of another potential barrier to fundraising for the cause: a lack of donor awareness of organizations working in tobacco prevention.

Until recently, a prospective donor looking to make an impact in tobacco prevention could start with Truth Initiative (Truth). Formerly known as the American Legacy Foundation, Truth is the largest US nonprofit organization completely dedicated to tobacco prevention. An outcome of the MSA, the tobacco industry effectively funded Truth's endowment with the stipulation that Truth cannot engage in anti-tobacco lobbying. As the organization has approximately $1.1 billion in net assets[77], Truth recently suspended its fundraising efforts.[78] TFK, on the other hand, is a partner and grantee of Truth that also started in the 1990s, and currently solicits for individual donations to "save lives by advocating for public policies that

prevent kids from smoking, help smokers quit and protect everyone from secondhand smoke."[79] An analysis of TFK annual reports spanning fiscal years 2012-2015 reveal that the organization averages less than $1 million in contributions and fundraising events, combined, which make up just four percent of the organization's revenues.[80]

Several other nonprofit organizations with similar missions preceded Truth and TFK. Most of these organizations emerged from the anti-smoking movement that began in the 1970s, including several chapters of the Group Against Smoking Pollution (GASP), a California coalition of which evolved into Americans for Nonsmokers' Rights (ANR) by 1988. With the help of the ANR Foundation (ANRF), its 501(c)3 educational nonprofit organization, ANR lobbies for tobacco prevention policy and legislation.[81] Similar to TFK, ANRF raised approximately four percent of its revenues from individuals between fiscal years 2011-2013, or no more than $0.1 million, annually.[82]

In addition to ACS, other nationally-federated nonprofit organizations – notably ALA and AHA –offer relevant giving opportunities for donors. Although ALA dwarfs both TFK and ANR, the scope of the ALA mission – "to save lives by improving lung health and preventing lung disease" goes far beyond tobacco prevention.[83] In 2014, the proportion of program service expenses allocated to "tobacco control" and/or "smoking education" varied widely by ALA affiliate, but applying these ratios to each affiliate's unrestricted contributions results in approximately $20 million attributable to tobacco prevention.[84] Specific figures used for these calculations are included in Appendix A. This is likely an overestimate of ALA funds raised for tobacco prevention because current ALA fundraising messages de-emphasize smoking as the primary cause of lung cancer[85] and the nature of unrestricted donations is such that they can ostensibly be allocated to every lung disease program area *except* tobacco prevention. A similar

inference about low funding from individuals can be made about the AHA, which lists "quit smoking" among Life's Simple 7 ways to improve one's health (and reduce risk for heart disease).[86] However, tobacco prevention appears to be even less of a funding priority for AHA; the organization's anti-tobacco advocacy grants totaled less than $0.4M in fiscal year 2015, whereas those for childhood obesity, for example, totaled over $5.5M.[87]

Charitable giving motivations

Individual donors who have adequate knowledge about tobacco use and its consequences, as well as existing tobacco prevention funding and opportunities, may not be motivated to donate to relevant nonprofit organizations. Lise Vesterlund distinguishes between the public and private benefits of giving; people often give to nonprofits to help generate public good – the "outputs" of nonprofits – but there are also private benefits to giving, such as a personal sense of satisfaction or recognition.[88] This phenomenon is referred to as the "warm glow" theory of giving, or "impure altruism."[89] Indeed, a 2013 study found that 73 percent of wealthy households cited "personal satisfaction" as a motivation for giving, and that 34 percent cited tax benefits.[90] Yet, Vesterlund says that individuals may also donate for the sake of public benefit.[91] The same 2013 study found that 74 percent of wealthy households believe that their gift can "make a difference," and that 63 percent donate "in order to give back to [their] community," suggesting that many donors give for the sake of others' well-being; some people are more purely altruistic.[92]

The private/public benefit distinction seems to correspond with a contrast between emotional and cognitive motivations to donate. Peter Singer distinguishes the latter from the former as giving to charity "with our heads," versus giving to charities with "heartwarming" missions (i.e., giving with our hearts).[93] Singer identified an irony in a series of experiments, which demonstrated that when individuals consider helping the "victims" of a social issue,

"calculative thought lessens the appeal of an identifiable victim, but feeling-based thought does not improve the appeal of statistical victims."[94] In other words, people are inconsistent in how they value human life, lending credence to the idea recently published in *The Chronicle of Philanthropy* that, for donors, "emotions matter more than facts."[95]

Donors are generally interested in helping the poor, making their own community "a better place to live," and addressing "fundamental problems" in the world.[96] The extent to which a more specific cause, like tobacco prevention, is compatible with these giving motivations presumably depends on its perceived relevance to the general cause. Smoking is largely frowned upon in the US; a 2013 Gallup poll showed that 55 percent of Americans think that smoking should be banned in all public places.[97] However, tobacco companies have long appealed to individuals' freedom of choice to smoke, effectively blaming individuals for their addictions.[98] People who smoke are perceived negatively in terms of their dependence on smoking and motivation to quit[99], so people who use tobacco may not be viewed as "victims" worthy of support. One experiment found that people prefer to donate nicotine patches over cash to diabetics who smoke, and the authors concede that "people may be less inclined to donate money towards smoking cessation than other health problems, as smoking may be viewed as voluntary."[100]

Minimal research has been published about motivations of donors to organizations working in tobacco prevention, specifically. A 2002 study of ALA donors, lapsed donors, and nondonors (i.e., a control group) found that donors (and lapsed donors) are significantly more concerned about smoking and lung cancer as health issues than nondonors.[101] This suggests that smoking – as one of many health issues of concern – contributes to donors' decisions to donate (or at least does not detract from their decisions to donate) to ALA. Since "smoking by children"

was the health issue of utmost concern among each group, the study concluded that "continued development and communication of programs to educate and dissuade children from smoking would be useful in retaining current donors and attracting past [donors] and nondonors."[102] Meanwhile, adult smoking was less of a concern for each group, although – compared to current donors – lapsed donors and nondonors were significantly less concerned about adult smoking.[103]

The following research study asks: What barriers might be inhibiting individuals from donating to nonprofit organizations working in tobacco prevention, and how might their fundraising potential be improved?

Methods

Informal conversations with staff at TFK and ALA about the research aims of this study resulted in the selection of a mixed methods study design, with the purpose of understanding why nonprofit organizations have been unable to generate a level of support from individuals commensurate with the public health toll of tobacco, and how they might be able to improve this. The use of both closed- and open-ended questions would provide, in John Creswell's words, "a more complete understanding of a research problem than either quantitative or qualitative data alone."[104] In essence, this would be market research of donors' interest in funding tobacco prevention, and this took the form of an anonymous online survey of individuals (who were all considered potential donors). Survey questions were tested for answer reliability on a convenience sample of eight respondents with no known awareness of the research topic. The survey research was approved by the University of Washington Human Subjects Division (Study #51746).

Sample design and survey protocol

Subjects were randomly selected from a sample of 30+ million adults (age 18+) registered with SurveyMonkey Contribute as survey respondents. Registration requires users to share their email address, gender, ZIP code, birth year and month, and household income for the previous year. SurveyMonkey runs regular benchmarking surveys to ensure that their sample is representative of the US adult population, and limits the number of surveys that individuals can take per week.[105] Aside from residency, no pre-qualifying demographics were used; any US resident registered with SurveyMonkey Contribute, who had not already reached their weekly limit of survey responses, could have been selected to complete the survey.

Respondents were notified, via email, that a new survey was available for them to complete, but were not provided with any information about the purpose or content of the survey. The email contained a link to the survey, which took them to surveymonkey.org, where the survey was hosted. Upon opening the survey link, respondents were informed that their responses would be anonymous, and that they would be asked about their "past charitable activity and current charitable giving motivations, knowledge of various health risks, and opinions about charitable giving in relation to certain health risks" to inform a graduate student's thesis research. They were also provided with an email address to which they could direct questions about the survey. Finally, they were asked to consent to these terms before taking the survey.

Per the SurveyMonkey Contribute program, respondents who completed the survey were rewarded with an entry into a prize sweepstakes and a $0.50 contribution to one charity of their choice, out of 52 possible charities. The survey was launched on Sunday, May 15, 2016, and was

closed the next day, once over 200 complete responses (the minimum for a margin of error of less than 7% at 95% confidence) were received.

Quantitative measures

Closed-ended questions inquired about individuals' past and current charitable giving activity and motivations. To segment the sample between current donors and non-recent and non-donors, a question was borrowed from a methodological analysis of giving estimation that yielded a relatively low rate (78 percent) of affirmative responses (so as to increase the size of the current donor sub-sample):

> *In the past 12 months, have you made any financial contributions to a charitable or nonprofit organization or group?* [106]

Later in the survey, respondents were asked if they had ever made a donation to a charitable or nonprofit organization or group with a health-related mission, and/or (in a separate question) one that works on tobacco prevention. Respondents who reported having not donated to the latter were asked if they had ever considered doing so.

To measure the degree to which individuals (particularly current donors) might make contributions to nonprofit organizations primarily for personal, "heartwarming" reasons versus more cerebral, result-oriented reasons, all respondents were asked to rate the importance of the following four factors in their decision to donate to a given organization using a 5-point scale, from "not at all important" to "extremely important":

- Stories about specific individuals helped by the organization
- Any personal connection that you may have to the organization/its program(s)
- Measurable results of the organization's work in helping people
- The cost-effectiveness of the organization's program(s)

Respondents were also asked to rank a list of reasons that they consider when considering making a donation to a given organization; most of these options were borrowed from the 2009 Indiana University study (some were modified slightly):

- Providing basic needs for people who are poor/disadvantaged
- Giving poor/disadvantaged people a way to help themselves
- Giving others opportunities that you had
- Feeling that those who have more resources should help those with fewer resources
- Want to address fundamental problems in our world
- Want to provide services government cannot or will not provide
- Desire to make your community and/or the world a better place to live
- Supporting positive efforts of friends, colleagues, or family
- Make decisions about where you spend your money, rather than letting government decide
- Ensuring tolerance for people's differences in ideals, beliefs, and cultures[107]

As several of these reasons correlate with fairly specific causes (e.g., poverty), a reason more targeted to public health – "Helping people live longer, healthier lives" – was added, with the hypothesis that this reason would compare favorably to the other listed reasons. These reasons were presented in a random order for each respondent, along with an 'Other' reason at the bottom, in case some respondents felt that their reasons were not included.

Since types of tobacco prevention program activities are fairly well-defined, it is important to understand which type(s) of intervention(s) might be most appealing to donors. To this end, another question asks respondents to rank these different activities in terms of their interest in supporting them:

- Youth education: Educating youth and young adults about the harms of tobacco use
- Cessation/treatment: Providing resources for people who use tobacco to help them quit using tobacco
- Policy advocacy: Persuading the public and lobbying government to enact tobacco policies that reduce tobacco use (e.g., smoke-free public places, tobacco excise taxes, prohibiting sale of tobacco to minors)
- Research: Studying tobacco addiction and harms, evaluating interventions, and identifying solutions

A copy of these survey questions, with annotations, is included in Appendix B.

Four demographic data points for respondents were provided by SurveyMonkey: Gender, age group, household income level, and US region (map in Appendix C).

Qualitative survey questions

The survey asked open-ended questions that effectively "quizzed" respondents on their knowledge about tobacco use and cancer (lung cancer, in particular), which could be a barrier to fundraising. Although lung cancer is far from the only tobacco-related disease worth including in this research, it is analytically convenient to focus on it because 4 in 5 lung cancers are caused by smoking. The survey questions were ordered so that respondents were asked about their proclivity to donate to a nonprofit organization working in tobacco prevention *after* disclosing their knowledge about the leading causes of death (in terms of both diseases/conditions and behaviors) and leading cancer diagnoses and deaths (for men and women, separately), so as to not influence their answers to these "quiz" questions.

Open-ended questions asking respondents for their reasons for donating to health-related and/or tobacco-related organizations followed the associated donor segmentation questions. Depending on whether the reported having considered donating to an organization working in tobacco prevention, they were asked why donating to such an organization might be important, or why they have not considered donating to such an organization. A final question asked all respondents, "What might make you more likely to donate to a nonprofit organization that works on tobacco prevention?" The intent of this, in combination with the other questions, was to inform ways in which nonprofit tobacco prevention programs might appeal to a broader base of supporters. A copy of all survey questions, with annotations, is included in Appendix B.

Analysis plan

The first step in the survey response data analysis was to code the responses to each open-ended question into one or multiple categories. Responses to the six "quiz" questions would be the most straightforward to code, as the instructions prepared respondents to list specific diseases/conditions, behaviors, and types of cancer. Nevertheless, the level of specificity would inevitably vary, so judgment was necessary to categorize some responses. In general, diseases/conditions were categorized by CDC mortality figures[108], behaviors were categorized by actual causes of death[109], and types of cancer were categorized by major site (e.g., respiratory system), per the latest Cancer Facts & Figures report by ACS.[110] This would enable the aggregate knowledge results to be compared to actual figures from these sources. Common responses (i.e., those mentioned by at least five percent of respondents) that did not have an appropriate match among the top categories were coded separately, and the remaining responses comprised the 'Other' category for each answer. Although the "leading causes of death" questions asked for three causes, for cases in which more than three causes were listed, all were included in the analysis (i.e., no responses were truncated).

While valuable in and of themselves, the knowledge results generated an additional dimension for respondent segmentation, specifically respondents' knowledge of:

- Cancer as one of the three diseases/conditions that cause the most deaths in the US;
- Smoking/tobacco use as one of the three behaviors that cause the most deaths in the US;
- Lung cancer as one of the three most-often diagnosed cancers among men and women; (lung cancer is second, behind prostate cancer and breast cancer, respectively);
- Lung cancer as the cancer that causes the most deaths among men and women; and
- Smoking/tobacco use as the main cause of lung cancers.

To this end, each respondent was assigned one score for their responses to these seven questions (one point possible, per question). Although potentially meaningful, no score-weighting was done to account for the order in which diseases/conditions and behaviors were mentioned.

However, for cases in which respondents listed lung cancer among multiple cancers (when asked about the single cancer that causes the most deaths for men and/or women), as well as when respondents listed smoking/tobacco among multiple answers (when asked about the behavior/activity that causes most lung cancers), a half-point was attributed to those responses.

Responses to the qualitative questions about giving motivations were coded in a similar fashion as the knowledge questions. Considering the broad range of possible answers to these questions, the categories were not determined in advance of coding. As there was more room for interpretation of the two questions asking *why* some respondents donated to a given type of organization, responses were categorized more organically into mutually non-exclusive categories; although the most succinct responses might only fall into one category, longer responses might warrant multiple categorizations. To aid in this process, word clouds – visualizations that display mentioned words in accordance with the frequency of each word across all responses – were generated using Wordle.net. According to McNaught and Lam, word clouds can be a "useful tool for preliminary analysis," so they were used to identify common words and phrases that were used to categorize responses.[111] An example word cloud is included in Appendix D. Additionally, based on responses to the 'more likely to support' question, a separate binary variable was coded for obstinacy/receptivity to donating to a nonprofit organization working in tobacco prevention.

Once responses were coded into various categories, descriptive statistics were used to summarize the responses to both quantitative and qualitative questions. This coding and categorization process was completed with Microsoft Excel, Version 15.2. Quantitative analysis of the data followed; statistical tests included Chi-square goodness-of-fit tests of sample representativeness, dependent variable (e.g., obstinacy/receptivity) means comparisons (Chi-

square and independent-samples t-tests) between demographic variables, paired-samples t-tests to compare means of program preference rankings, binomial and linear regressions of dependent variables on ordinal independent variables (e.g., knowledge scores, charitable giving motivation ratings, age group, household income), and a one-way ANOVA of program preference rankings by respondents' geographic location. All statistical tests were completed with IBM SPSS, Version 19.0.

Results

The survey was completed by 253 respondents, but eight responses were excluded due to incomplete and/or incoherent responses to most or all open-ended questions, leaving 245 responses for the analysis.

Representativeness

Available survey respondent demographics were compared to the 2014 American Community Survey 1-year Estimates.[112] Fifty-four percent of respondents were female, and sixty percent of respondents were between the ages of 30 and 59. Respondents were representative in terms of US regional location. The sub-sample of respondents who provided an approximate annual household income differed significantly from the US population ($\chi^2 = 18.760$, $p = 0.009$). However, 78% (95% CI [0.73, 0.83]) of respondents reported making a financial contribution to a charitable or nonprofit organization or group within the past year, which matched the expected proportion of current donors perfectly. Table 2, below, summarizes the sample and demonstrates that the survey results are generalizable to the US population on the basis of gender, geographic location, current donor status, and – to a lesser extent – age group.

Table 2: Sample representativeness of US population

Demographic variable	Sample n	Sample %	US population %	Chi-square (p-value)
Gender				
Female	132	53.9	51.4	
Male	113	46.1	48.6	0.608 (0.436)
Age group				
18-29	45	18.4	21.8	
30-44	69	28.2	25.4	
45-59	78	31.8	26.4	
60+	53	21.6	26.5	6.997 (0.072)*
Annual household income				
$0 to $9,999	12	5.5	7.3	
$10,000 to $24,999	25	11.5	15.8	
$25,000 to $49,999	37	17.0	23.5	
$50,000 to $74,999	45	20.6	17.8	
$75,000 to $99,999	31	14.2	12.0	
$100,000 to $149,999	45	20.6	13.1	
$150,000 to $199,999	11	5.0	5.2	
$200,000+	12	5.5	5.3	
Prefer not to answer	*27*	*11.0*		18.760 (0.009)**
US region				
East North Central	43	17.7	14.7	
East South Central	12	4.9	5.9	
Middle Atlantic	28	11.5	13.3	
Mountain	18	7.4	7.1	
New England	18	7.4	4.8	
Pacific	41	16.9	16.3	
South Atlantic	42	17.3	19.8	
West North Central	21	8.6	6.5	
West South Central	20	8.2	11.6	
Not specified	*2*	*0.8*		11.033 (0.200)
Donor status				
Non-donor	54	22.0	22.0	
Current donor	191	78.0	78.0	0.000 (0.988)

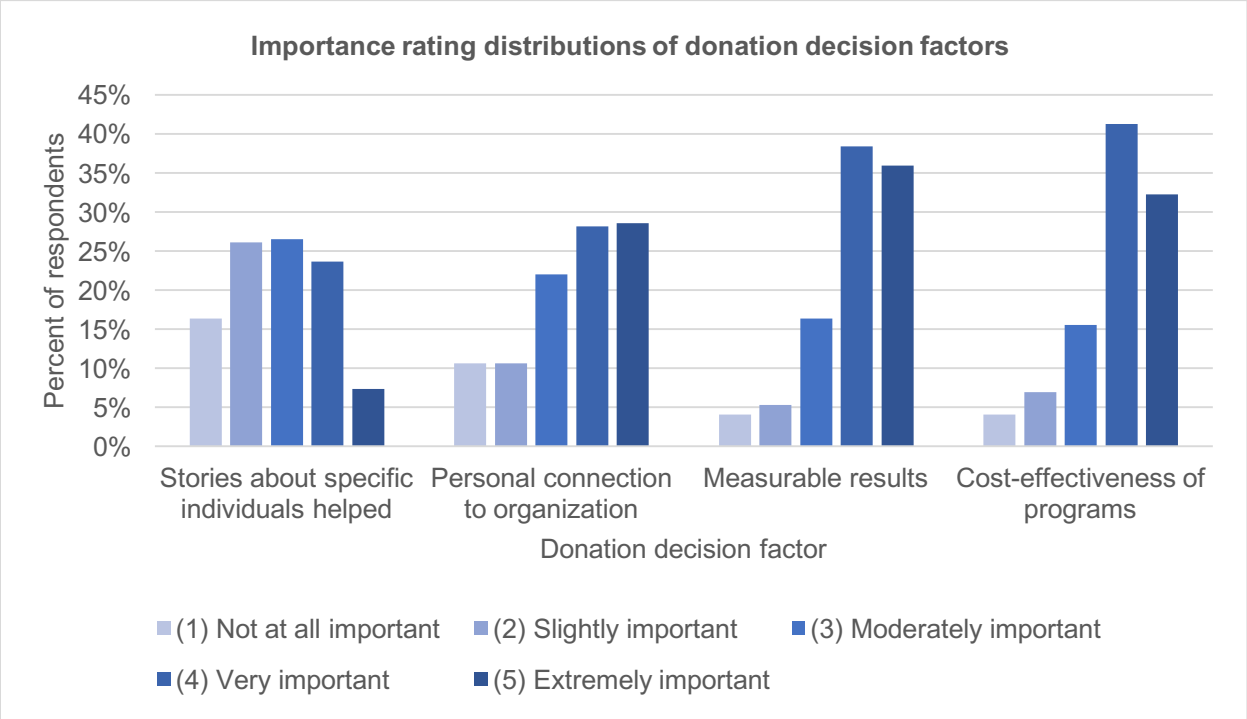
**Sample differs from the population at the 0.05 level of significance
*Sample differs from the population at the 0.10 level of significance

Charitable giving motivations

In terms of the four factors that respondents might consider for a decision to donate, "Measurable results of the organization's work in helping people" was rated highest among all respondents ($\bar{x}$ = 3.97), followed closely by "the cost-effectiveness of the organization's programs" (3.91) – the consensus being that these two are "very important" factors when deciding to donate to a given organization, consistent with recent trends in philanthropy. The aggregate rating for "any personal connection that you may have to the organization/its

program(s)" fell between moderately important and very important (3.53), but "stories about specific individuals helped by the organization" was slightly less than moderately important, on average (2.80). Figure 1 displays the distributions of these four different ratings.

Figure 1



The top-ranked reason, on average, for considering a donation to a given organization was a "desire to make your community and/or the world a better place to live" ($\bar{x} = 4.38$). The bottom-ranked reason (besides 'Other') was "ensuring tolerance for people's differences in ideals, beliefs, and cultures" (7.30). The ranking of "helping people live longer, healthier lives" fell in the middle, but closer to the bottom (6.49). Fourteen (5.7%) respondents ranked this reason first, with 17 (6.9%) and 25 (10.2%) respondents ranking it second and third, respectively. Table 3, below, summarizes these average rankings.

Table 3

Reasons for possibly considering a donation to a given organization	Average Ranking
Desire to make your community and/or the world a better place to live	4.38
Providing basic needs for people who are poor/disadvantaged	5.10
Giving poor/disadvantaged people a way to help themselves	5.50
Want to address fundamental problems in our world	5.63
Feeling that those who have more resources should help those with fewer resources	6.37
Supporting positive efforts of friends, colleagues, or family	6.39
Helping people live longer, healthier lives	6.49
Giving others opportunities that you had	7.04
Make decisions about where you spend your money, rather than letting government decide	7.04
Want to provide services government cannot or will not provide	7.07
Ensuring tolerance for people's differences in ideals, beliefs, and cultures	7.30
Other	9.69

Knowledge of health risks

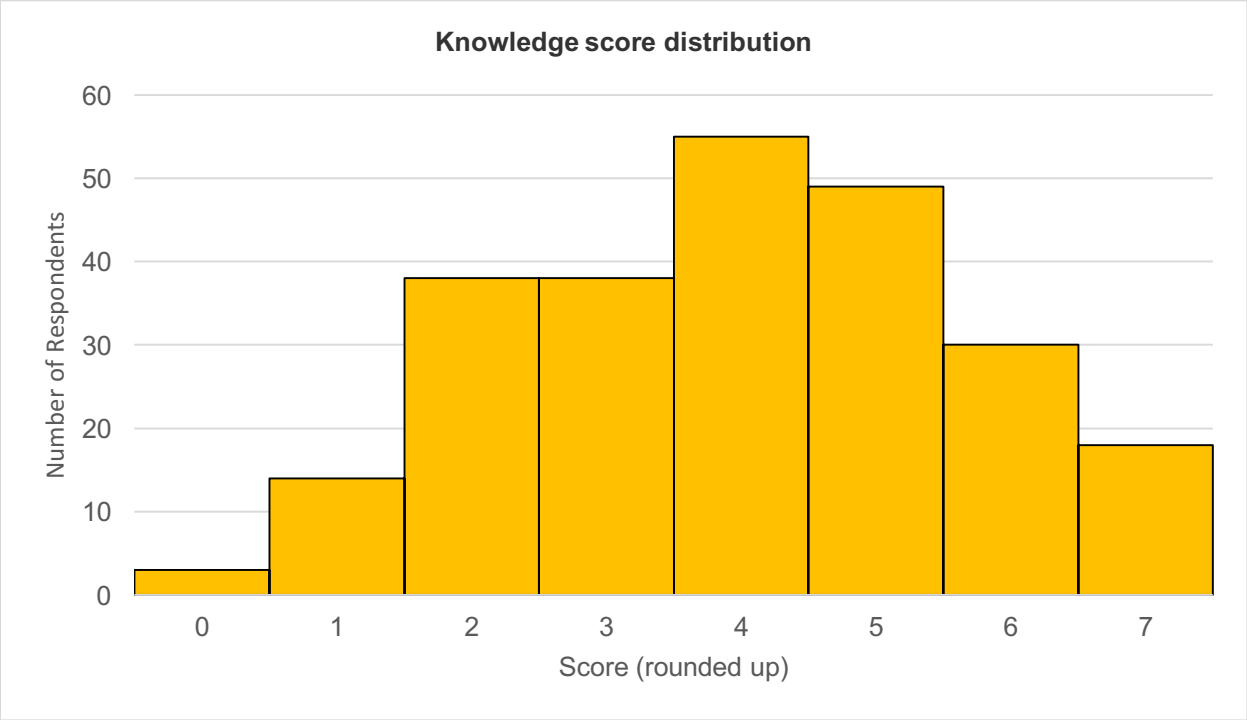
Large majorities of respondents correctly cited heart disease (72.7%) and cancer (80.0%) as leading causes of death, in terms of disease/condition. However, almost one quarter (23.7%) of respondents mentioned diabetes as one of the three leading causes of death, when – in fact – chronic lower respiratory disease (much of which smoking causes), is the third leading cause of death in the US. Yet, only 4.9% of respondents listed a respiratory disease of some sort. Among those listed more often than respiratory disease were mental illnesses (7.3%) and HIV/AIDS (6.1%). The only modifiable behavior/activity that a majority of respondents (56.3%) correctly mentioned as a leading cause of death was poor diet and/or physical inactivity. Meanwhile, only 2 in 5 respondents correctly mentioned smoking (i.e., tobacco use), when – in fact – it is the leading preventable cause of death in the US.

Most respondents correctly listed prostate cancer and breast cancer as being among the most common cancer diagnoses for men and women, respectively. Respondents were significantly more likely to list lung cancer as being among the top cancer diagnoses for men than they were for women ($t = 5.258$, $p < 0.001$). Lung cancer was correctly cited most often by

respondents as the deadliest cancer for men (33.1%). Instead, breast cancer was cited most often (43.3%) as the deadliest cancer for women. When using the aforementioned scoring scheme to account for mentions of lung cancer among other cancers, respondents were significantly more likely to mention lung cancer as the deadliest cancer for men, than for women ($t = 6.869$, $p < 0.001$). Appendix E contains the full comparisons.

Finally, 76.7% of respondents correctly cited smoking as the behavior/activity that is the main cause of lung cancer. An additional 13.1% included smoking as one of multiple causes, resulting in a mean score of 0.83 out of 1.00 for this question. When combined with the scores for the other six questions, the mean knowledge score was 3.90, out of 7.00, with a standard deviation of 1.68. Only three respondents (1.2%) answered all seven questions incorrectly. Sixteen respondents (6.5%) got a perfect score, meaning that they correctly listed cancer and smoking as one of the top three deadliest diseases and behaviors (respectively) lung cancer as one of the most commonly diagnosed cancers among both men and women, lung cancer as the single deadliest cancer among both men and women, *and* recognized smoking as the primary cause of lung cancer. Figure 2 shows a fairly normal distribution of scores around the mean, with a slight left tail.

Figure 2



Characteristics and correlates of current donors

Seventy-two percent of respondents reported ever making a donation to a charitable or nonprofit organization or group with a health-related mission. When asked why they donated to this type of organization, personal reasons – notably deaths of family members or friends – were shared the most often (33% of respondents). Many of these responses had diseases or medical conditions associated with them, as those were cited by 19% of respondents. One such dually-relevant response stated:

"Because I had cancer & MS & so do/have loved ones & friends"
- Female, 45-59, $200k+, East South Central

Characteristics of the organizations to which respondents donated were cited nearly as often as personal ties to the cause; 18% mentioned a characteristic about one or more organizations. Two example responses follow:

"I was aligned with their mission"
-Male, 60+, $125-150k, New England

"They had a good rating for using their donations wisely to help others…"
-Female, 30-44, $100-125k, Pacific

More than one in nine respondents who had donated to a health-related organization (12%) explicitly mentioned an interest in helping to find a cure for a given disease, and one in 10 (10%) mentioned research as important to their decision to donate. Other themes mentioned by at least five percent of respondents included a general desire to help (8%), particularly to help those in need (7%), and to provide health care (5%).

Nearly 12% of respondents who reported ever donating to a health-related organization (or 8.6% of all respondents) also reported ever making a donation to an organization or group that works on tobacco prevention. No statistically significant demographic or knowledge differences in respondents who had donated to an organization working in tobacco prevention were identified. Additionally, these respondents were no more likely to rank any of the possible reasons for considering a donation to a given organization (e.g., "Helping people live longer, healthier lives") differently than other respondents. However, their ratings for three of the four donation decision factors were higher to a statistically significant degree – "any personal connection that you may have to the organization/its program(s)" was the exception. These comparisons are detailed in Table 4.

The most frequently-mentioned reasons for donating were similar to those of general health-related organizations. Approximately 2 in 5 of these respondents reported having a family member or friend who was adversely impacted by tobacco use:

"Because my dad had lung cancer due to smoking"
- Male, 45-59, $25-50k, West North Central

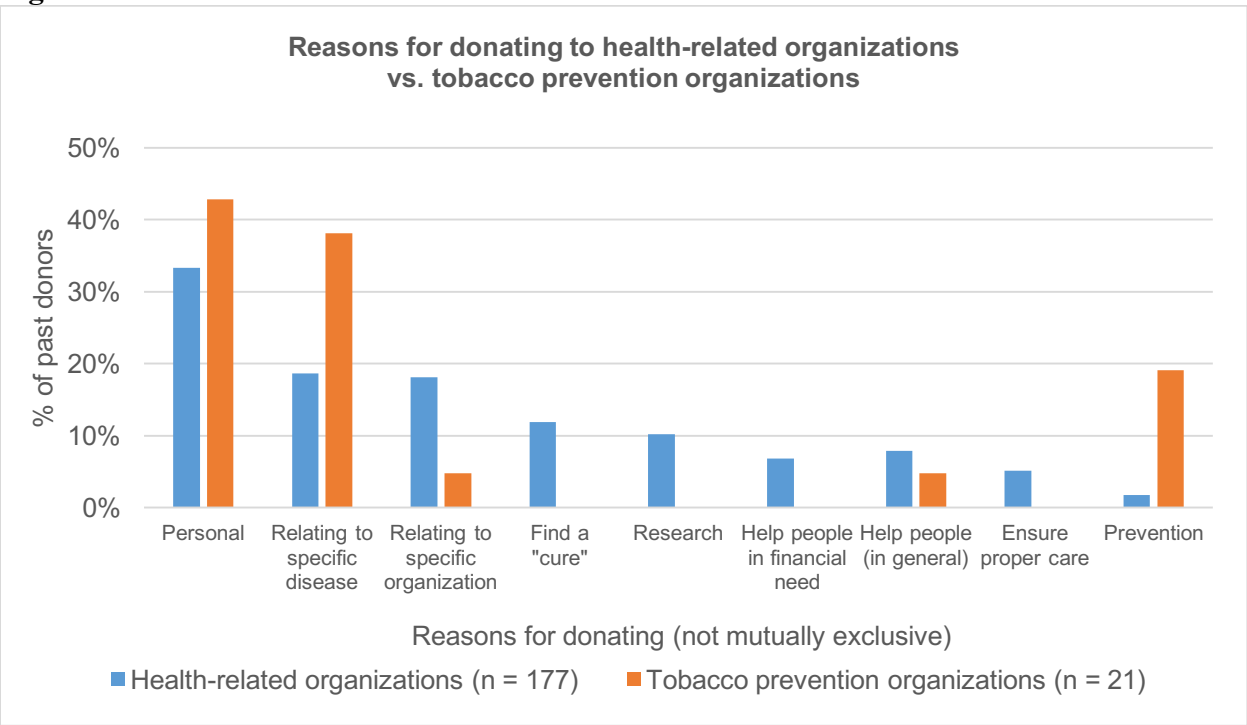
In one way or another, four different respondents who donated to an organization working in tobacco prevention (19%) mentioned disease prevention as a reason for their donation:

"If better education, hopefully stop people from ever starting and hopefully leading to fewer deaths from lung related issues."

- Male, 30-44, $75-100k, West North Central

Figure 3, below, compares past donors' reasons for donating to health-related organizations with those for donating to organizations working in tobacco prevention.

Figure 3



Thirty (12%) other respondents reported having *considered* donating to an organization working in tobacco prevention, but the consensus for why donating to this type of organization "might be important" differed slightly from that of the respondents who had already donated. Specifically, a majority (60%) of these respondents mentioned either prevention or education:

"Preventing smoking is the best way to prevent lung cancer, reduce heart disease, and more. The trouble is that it's hard to tell who is working on this effectively."

- Female, 30-44, $25-50k, Pacific

"Hopefully education will provide the facts for people who have never smoked will keep them smoke free."

- Female, 60+, $100-125k, East South Central

Others (20%) simply noted various negative aspects of tobacco use:

"Tobacco use is unhealthy and expensive."
- Female, 30-44, $50-75k, South Atlantic

"because people don't need to smoke because smoking is icky"
- Female, 30-44, East North Central

Barriers to raising funds from individuals

Approximately four in five (79.2%) of all respondents reported never having considered donating to an organization working in tobacco prevention. No statistically significant differences in this group's demographics were identified. Overall knowledge was not a predictor and, in terms of differences in motivations, these respondents ranked "helping people live longer, healthier lives" 0.8 places lower, on average. However, those who had never considered donating ranked "giving poor/disadvantaged people a way to help themselves," 1.2 places lower on average, which was statistically significant ($t = 2.025$, $p = 0.044$). Additionally, Table 4 shows a marginally significant drop in the rating for "stories about specific individuals helped by the organization" ($t = -1.703$, $p = 0.090$).

Table 4: Comparison of donation decision factor ratings, by sample segment

Sample segment / Donation decision factor	Donated to tobacco prevention org. (n = 21)	Considered donating to tobacco prevention org. (n = 30)	Not considered donating to tobacco prevention org. (n = 194)
Stories about specific individuals helped	3.57**	3.07	2.67*
Personal connection to organization	3.90	3.43	3.51
Measurable results	4.52**	4.03	3.90
Cost-effectiveness of programs	4.48**	3.87	3.85

**Rating is different from that of respondents who had not donated to a tobacco prevention organization to the 0.05 level of significance.
*Rating is different from that of respondents who had considered donating to a tobacco prevention organization to the 0.10 level of significance.

The most commonly-cited reason for *not* having considered donating was respondents' other funding priorities. Nineteen percent of respondents mentioned this to some extent:

"I prefer to fund different activities."
- Male, 60+, $100-125k, West South Central

"My donation dollars go to animal protection organizations and an occasional political contribution."

- Female, 60+, $50-75k, South Atlantic

Another group of respondents (17%) attributed their view of tobacco use as an individual choice and/or responsibility to their not having considered donating to an organization working in tobacco prevention. Those responses include:

"Smoking is a self made bad habit. I would rather support an illness / issue that someone did not bring onto themselves."

- Female, 18-29, $50-75k, Middle Atlantic

"It's a free choice to smoke or not to smoke. Let's keep it that way."

- Male, 45-59, $200k+, East North Central

More than one in 10 (11%) respondents said that they are unaware of any organizations working in tobacco prevention: For example:

"Not familiar with any such organizations."

- Male, 45-59, $100-125k, South Atlantic

Nearly a quarter of respondents who mentioned tobacco use as an individual choice/responsibility comprised almost half of the 9% of respondents who had reported not considering donating because the risks of tobacco use are widely known (most implied this):

"If people are stupid enough to smoke then they get what they deserve."

- Male, 30-44, $10-25k, East South Central

"I feel there's enough information to prevent it."

- Female, 18-29, $50-75k, Pacific

Eight percent of respondents simply said that they do not have the money to donate to this cause (though it is worth noting that nearly one-third of these respondents had made a donation within the past year). Almost the same proportion of respondents (7%) acknowledged that, because they do not have a personal connection to the issue, they have not considered supporting tobacco prevention:

"I've never smoked…"

- Female, 18-29, $125-150k, East North Central

"I don't know a lot of smokers."

- Female, 45-49, $200k+, Pacific

A separate group of respondents – 6% of individuals who had not considered donating – similarly mentioned that tobacco prevention, as a cause, is already sufficiently funded and/or substantiated the government crowd-out hypothesis.

"There should be plenty of money available from the tobacco settlement if they didn't put it in their general funds"

- Male, 60+, $125-150k, New England

"because enough other people care about this cause."

- Female, 45-59, $10-25k, South Atlantic

Another 6% mentioned never having the opportunity to donate to such an organization:

"The opportunity never presented itself. If someone asked, I would consider it."

- Female, 18-29, $75-100k, West North Central

The last major response theme was general skepticism/hopelessness regarding tobacco prevention efforts, which approximately 5% of respondents voiced to some extent:

"Because cigarette smoking is a form of self medicating (or in some cases slow suicide) and [tobacco prevention] doesn't address the real problem or the reasons people smoke, only preaches the evils of tobacco. The people who are smoking aren't hearing anything new or different and aren't offered any real help in quitting."

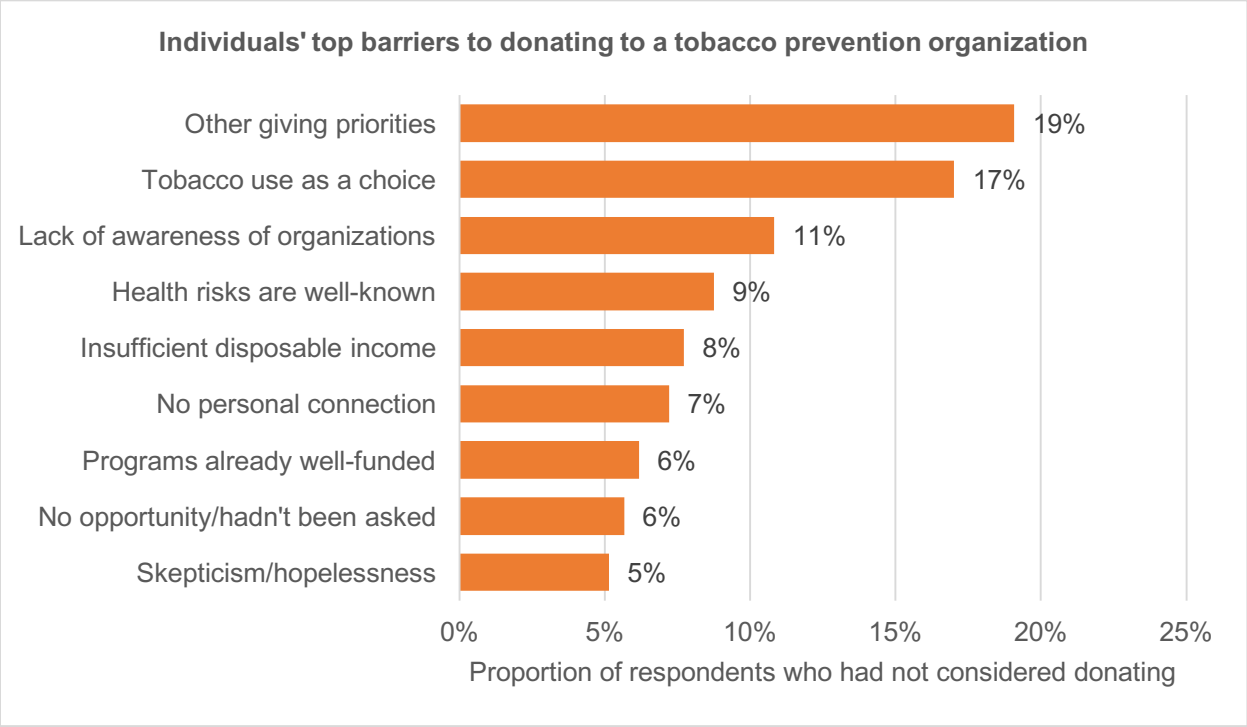
- Female, 30-44, $10-25k, East South Central

"not a practical goal"

- Female, 60+, $25-50k, Pacific

Figure 4, below, provides a visual summary of individuals' top reported barriers to donating to a nonprofit organization for tobacco prevention.

Figure 4



When asked what might make them more likely to donate to a nonprofit organization working in tobacco prevention, 26% of respondents said "nothing," or something equivalent. Male respondents were significantly more likely to be "obstinate" about potential influences (33% vs. 20%), so female respondents were significantly more likely to be "receptive" to them. While there were no statistically significant differences in this result by age group, geographic location, or current donor status, obstinacy/receptivity to tobacco prevention as a cause worth funding differed significantly by household income ($\chi^2 = 19.842$, $p = 0.019$). This was mostly driven by the highest and lowest income levels; seven of the 12 respondents with household income in excess of $200,000 said that nothing would make them more likely to donate, yet *none* of the 12 respondents with household income under $10,000 said this. As one respondent in the highest household income category said:

"Nothing [might make me more likely to donate]. I've made up my mind about other things that matter more to me that get far less attention."

- Male, 45-59, $200k+, Pacific

Meanwhile, three of the 12 respondents with household income under $10,000 said that additional income/money might make them more likely to donate; 7% of all respondents referenced disposable income as an influence, including one who mentioned:

"A more stable income and budget that would allow me to support others and not just my personal household."

- Male, 18-29, $10-25k, East North Central

Table 5, below, summarizes these comparisons of obstinacy/receptivity, by demographic.

Table 5: Obstinacy to influences on increased likelihood of donating, by demographic

Demographic variable	Obstinate % (receptive %)	Chi-square (p-value)
Gender		
Female	20.4 (79.6)	
Male	32.7 (67.3)	4.764 (0.029)**
Age group		
18-29	17.8 (82.2)	
30-44	29.0 (71.0)	
45-59	28.2 (71.8)	
60+	26.4 (73.6)	2.094 (0.553)
Annual household income		
$0 to $9,999	0.0 (100.0)	
$10,000 to $24,999	44.0 (56.0)	
$25,000 to $49,999	18.9 (81.1)	
$50,000 to $74,999	15.6 (84.4)	
$75,000 to $99,999	32.3 (67.7)	
$100,000 to $124,999	31.0 (69.0)	
$125,000 to $149,999	31.3 (68.8)	
$150,000 to $174,999	16.7 (83.3)	
$175,000 to $199,999	40.0 (60.0)	
$200,000+	58.3 (41.7)	19.842 (0.019)**
US region		
East North Central	25.6 (74.4)	
East South Central	58.3 (41.7)	
Middle Atlantic	25.0 (75.0)	
Mountain	33.3 (66.7)	
New England	27.8 (72.2)	
Pacific	24.4 (75.6)	
South Atlantic	23.8 (76.2)	
West North Central	14.3 (85.7)	
West South Central	25.0 (75.0)	8.653 (0.372)
Donor status		
Non-donor	29.6 (70.4)	
Current donor	25.1 (74.9)	0.441 (0.506)

**Some proportions are different to the 0.05 level of significance

Although respondents obstinate to the cause combined for an average knowledge score that was 0.3 points lower than those categorized as receptive, overall knowledge was not a statistically significant predictor of cause obstinacy, past consideration of donating to an organization working in tobacco prevention. However, when separating each of the seven knowledge variables in a binomial regression model, a lack of knowledge of the link between smoking and lung cancer was a statistically significant predictor of cause obstinacy (Wald χ^2 = 7.076, p = 0.008). Knowledge of lung cancer as the leading cause of cancer deaths among men was slightly significant (Wald χ^2 = 2.822, p = 0.093). The full results of this regression are displayed in Appendix F. Relationships between obstinacy and charitable giving motivations are discussed in terms of overcoming barriers to raising money from these individuals.

Overcoming barriers to raising funds from individuals

In addition to the 26% of respondents who insisted that nothing could convince them that tobacco prevention is a cause worth funding, 12% were unsure what would make them more likely to donate. This left 62% of respondents who provided information that could be gleaned for ways to overcome barriers to raising money from individuals for tobacco prevention. While receptivity was positively associated with current donors' relatively high appreciation for stories about individuals helped by the organization, results and/or evidence of organizational efficacy were cited most often (by 19% of receptive respondents) as possible donation motivators. For example, some mentioned:

> *"Evidence that charitable organizations are making an impact on tobacco use"*
> - Male, 30-44, $25-50k, South Atlantic

> *"Knowing that my money would make a significant difference."*
> - Female, 18-29, $50-75k

"Share amount of money saved in economy by not having to buy tobacco or pay for medical expenses"

- Male, 18-29, $75-100k, South Atlantic

Many (18%) suggested that information about the nonprofit organizations that work in tobacco prevention could make them more likely to donate:

"Information on organizations that do such work"

- Male, 30-44, $25-50k, Pacific

"i want to know what they do to prevent tobacco use"

- Female, 18-29, New England

"knowing 80% would go to what the organization is supporting and not that much going to administration of the cause"

- Female, 60+, Mountain

Nearly 1 in 10 receptive respondents (9%) hypothesized that if they had a personal connection to the cause, they might be more likely to donate to an organization advancing it:

"If someone I care very much about is suffering from such addictions"

- Female, 18-29, $75-100k, West North Central

"If someone in my family gets lung cancer from smoking"

- Male, 45-59, $100-125k, New England

Six percent mentioned that information about tobacco, as an issue, might make them more likely to donate:

"A better understanding of addiction since smoking is a choice."

- Male, 45-59, $200k+, Middle Atlantic

"If I knew that tobacco/lung cancer was still such a threat to public health."

- Female, 30-44, $25-50k, Pacific

Another 6% said that it might need to be more convenient to donate to organizations addressing tobacco use, and mentioned a few different possibilities:

"If you can donate small amounts and it's an easy process, like online or in cash at the store like the salvation army buckets."

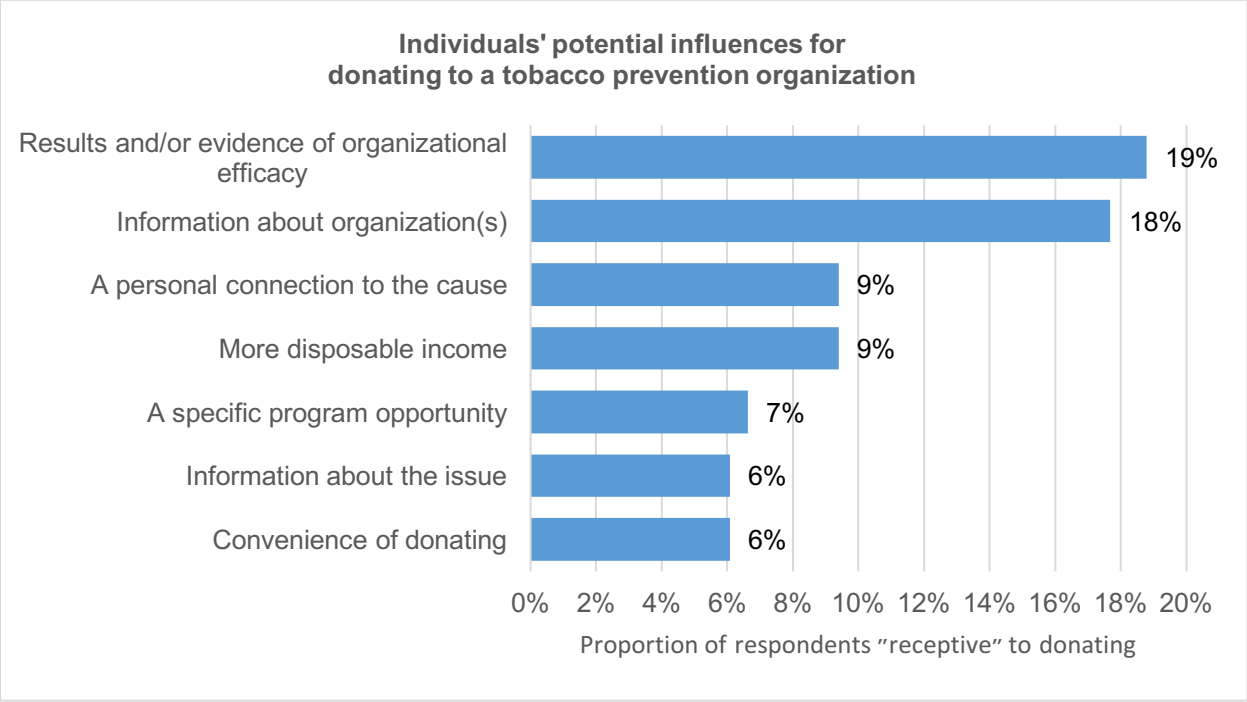
- Female, 18-29, $25-50k, Mountain

"If it were advertised at a gas station checkout counter"
- Male, 18-29, $25-50k, South Atlantic

"If it's brought up more at work with donations or local fund raisers"
- Female, 30-44, West South Central

Figure 5, below, provides a visual summary of individuals' top reported potential influences for donating to a nonprofit organization for tobacco prevention.

Figure 5



Program preferences for tobacco prevention

When asked about their relative interest in supporting different program areas, respondents ranked youth education the highest, on average ($\bar{x}$ = 1.78). Cessation/treatment was second (2.57), with policy advocacy (2.76) and research (2.89) close behind. Older respondents ranked research as a higher priority than their younger counterparts (t = -1.952, p = 0.052), and a one-way ANOVA demonstrated that average rankings for youth education varied by US region

to a statistically significant degree ($F(8,234) = 2.070$, $p = 0.040$). No statistically significant differences in average rankings of program areas were identified by gender or household income.

Although knowledge score was not a predictor for the average ranking of any program area, knowledge of tobacco use as a top-three cause of death was a predictor for a lower ranking for research (3.08 vs. 2.76; $t = -2.214$, $p = 0.028$). Additionally, respondents who correctly cited smoking as the cause of most lung cancers were statistically more likely to rank policy advocacy higher (2.68 vs. 3.02; $t = 2.042$, $p = 0.042$), suggesting that relative support for policy advocacy is linked to knowledge of the smoking-lung cancer link. No statistically significant differences between respondents' charitable giving motivations and program preferences were identified.

When asked what might make them more willing to donate, 7% of receptive respondents cited specific program interests:

> *"If it is aimed at preventing youth from smoking"*
> - Female, 30-44, $100-125k, Pacific

> *"Organized free cessation program"*
> - Female, 45-59, $75-100k, South Atlantic

> *"A really clever effective media campaign; an effective focus on pressuring legislators to enact useful deterrents and stand up to big tobacco."*
> - Female, 60+, $25-50k, Mountain

Discussion

Conclusions

Barriers to raising money from individuals for tobacco prevention span demographic, knowledge, and donor motivation dimensions. Although there were no notable demographic differences in past donors or people who had considered giving to organizations working in tobacco prevention, men and respondents in high-income households were more likely to be obstinate to the cause.

Correcting perceptions and reframing the issue

To the extent that knowledge predicts charitable activity, knowledge about the risks of smoking and lung cancer, *relative* to other causes of death is likely a barrier to raising funds for tobacco prevention. Only 22% more men will die from lung cancer than women in 2016 – a rate that mirrors the gender disparity in smoking prevalence[113] – but survey respondents were twice as likely to cite lung cancer as one of the top three deadliest cancers for men than they were for women. ALA has noted that, relative to female-specific cancers, lung cancer "is not even on women's radar"[114], and these results suggest that these disparities in risk perception persist among women *and* men with regard to breast cancer, and possibly genital system cancers. Further research into these perceptions may be warranted, but in the meantime, organizations like ALA should continue to emphasize women's high susceptibility to lung cancer without downplaying the significance of smoking as a cause.

Despite the enormous toll that tobacco use exacts on the US population, a lack of knowledge of the *relative* impact of tobacco use remains a likely barrier to fundraising for tobacco prevention. For years, organizations like TFK have promulgated the message that, "smoking kills more people than alcohol, AIDS, car accidents, illegal drugs, murders and suicides combined."[115] However, results of this study suggest that this message is not being heard. Alcohol consumption was not listed significantly less often than tobacco as being among the most common causes of death, yet tobacco kills over five times as many people. Similarly, the number of deaths attributable to drug use is ranked ninth – an order of magnitude lower than that of tobacco – yet 28% of respondents listed drug use. This begs the question: To elevate the issue of tobacco use among donors, does the fundraising message need to amplified, or changed altogether?

The results of this study suggest that both a modified and "louder" message might be worthwhile. Such a recommendation should start with message modifications. Returning to the comparison to drug use: In a landmark study of 20 commonly-used substances, tobacco scored highest for chronic physical harm and third-highest for dependence – behind heroin and cocaine.[116] Yet, the results of this study suggest that alcohol is more commonly associated with drugs in the context of chronic physical harm; over half of the 28% of survey respondents who incorrectly listed drug use as a leading cause of death also listed alcohol consumption, yet only 32% also listed tobacco. A possible remedy to this cognitive dissonance might be to explicitly include concepts of addiction and dependence into fundraising messages. As one respondent said, *"If smoking was presented and understood in the same manner as drugs"* (Female, 60+, South Atlantic), she would be more likely to donate to an organization working in tobacco prevention.

Nonprofit organizations working in tobacco prevention could also emphasize the fact that tobacco dependence, itself, is a disease. Interestingly, more than one in 10 past donors to health-related organizations mentioned that finding a cure was a reason behind their donation, including one respondent who said that he would prefer to *"cure the issue, not the cause"* (Male, 45-59, $75-100k, Pacific). Although a proportionately larger share of past donors to organizations working in tobacco prevention specifically mentioned prevention or education, a reframing of tobacco prevention efforts as curing tobacco dependence before it starts might broaden support for the cause. Just as clinicians have incorporated a chronic disease model for treating tobacco dependence[117], nonprofit organizations can frame tobacco prevention as a disease that needs "curing."

Finding success in market failure

For many, a lack of knowledge about tobacco use and its consequences is not necessarily a barrier; perceptions of its relative importance (or lack thereof) seem more relevant to them. Interestingly, the knowledge results of this study appear to fly in the face of what nearly 1 in 10 respondents who have not considered donating said: that the risks of tobacco use are well-known. In other words, perceived knowledge levels may be greater than actual knowledge levels – much of which this study suggests is inaccurate, anyway – undermining the issue as a whole. Not only did many respondents admit to having other funding priorities, but they also felt that tobacco use has been sufficiently addressed by government and/or other entities, which supports the crowd-out hypothesis. In effect, tobacco use is rendered a virtual non-issue for society, and one that is complicated by the fact that tobacco prevention has gradually and significantly reduced prevalence. However, it is critical for nonprofit organizations working in tobacco prevention to recognize that disparities in tobacco use have increased. In this vein, the segment of donors who give to health-related organizations to help people in need might be particularly receptive to the cause if it were communicated as both a health issue and a social justice issue.[118] This may help satisfy prospective donors' demand for equity and "giving poor/disadvantaged people a way to help themselves."

In addition to framing tobacco dependence as a disease, nonprofit organizations could be more aggressive in implicating the tobacco industry in both causing and sustaining addiction. One of the most common barriers identified in this study was the belief that tobacco use is an individual choice. For these organizations to tap into this considerable segment of the population, this myth must be debunked. Malone et al. found that tobacco industry de-normalization is "an effective tobacco control intervention at the population level that has a clear exposure-response

effect."[119] Interestingly, some respondents exhibited distrust in the tobacco industry (some of which was in relation to tobacco prevention):

> *"…Tobacco is not the issue, cigarettes and the large corporations that distribute them are."*
>
> - Female, 18-29 $150-175k, Pacific

> *"The organizations working in tobacco prevention are often in bed with the tobacco industry…"*
>
> - Male, 45-59, $25-50k, Pacific

By breaking down the barrier of tobacco dependence as an individual choice among prospective donors, funding tobacco prevention efforts (especially cessation/treatment programs) might be more appealing to them.

Appealing to the head and the heart

Current donors to organizations working in tobacco prevention predominantly have a personal connection to the cause; they give with their hearts. By contrast, respondents who had not considered donating reported not having (or being able to draw) a personal connection with the cause. Clearly, a personal connection is perceived as important, and stories about individuals helped by the organization may be a viable means for appealing to those who have already considered donating to tobacco prevention.

Still, the data confirm that there are opportunities to appeal to those who are more cerebral in their charitable giving, and may be interested in the results-oriented public benefit of tobacco prevention. Cessation/treatment programs, although significantly less appealing to prospective donors than youth education, can be positioned in messaging as either or both heartwarming opportunities and cost-effective interventions.

Amplifying the message

This study demonstrates that the American public is largely ignorant about nonprofit organizations working in tobacco prevention. In addition to the aforementioned message modifications, organizations may need to innovate to generate attention. When asked what would make her more likely to donate, one respondent said:

> *"A new tactic that isn't one of these [four program areas]. Something realistic. A way at looking at addiction that isn't one of these only non-functioning, non-helpful methods that only demonizes those it proposes to 'help.'"*
>
> - Female, 30-44, $10-25k, East South Central

Two examples of innovative ideas stand out. First, a randomized, controlled trial conducted by Halpern et al. suggests that reward-based smoking cessation programs hold promise.[120] Applied to philanthropy, donor sponsorship of individuals' smoking cessation programs could offer the quintessential attributable public benefit to the donor, while achieving the end goal of tobacco prevention. Second, Run To Quit, a Canadian program, integrates evidence-based tobacco dependence treatment into "a new 10-week program that supports smokers to quit smoking by taking up running."[121] The related 'Break Free 5K Run/Walk' resembles the kind of joint fitness/fundraising events that have proven to be successful for organizations dedicated to curing specific diseases.

Both of the aforementioned examples are particularly conducive to raising funds from individuals, as opposed to large foundations or benefactors. As respondents in high-income households were more likely to be obstinate to the cause, major gifts may be difficult for organizations working in tobacco prevention to raise. Meanwhile, the sentiment from respondents in lower household income brackets was relatively receptive to tobacco prevention, so smaller contributions may yield summative power. To achieve widespread support, though, the actual donation transaction should be convenient, as several survey respondents suggested.

In conclusion, nonprofit organizations working in tobacco prevention should adopt a strategy to bridge the supply of tobacco prevention to its demand, and derive social good by connecting the following hypothetical beneficiary and benefactor:

> *"I am a smoker who unwillingly gives much of my income via taxes on tobacco, but who receives no free real help to quit"*
>
> - Female, 45-59, $25-50k, Middle Atlantic

> *"…I know a little contribution can go a long way in helping someone beat an illness"*
>
> - Male, 18-29, $50-75k, Middle Atlantic

Limitations

This study has several limitations, including potential biases in the study context, design, and results, as well as the analysis and generalizability of those results.

The timing of the survey was peculiar; it was launched 10 days following a sequence of two particularly significant events in tobacco control: The Governor of California signed a bill to raise the minimum age for tobacco purchase to 21 years on May 4, and the US Food and Drug Administration's (FDA) released a rule extending its regulatory authority over a wider range of tobacco products (including electronic nicotine delivery systems) the very next morning. However, no respondents mentioned either of these events, so the impact on the survey results was likely negligible.

The survey instrument utilized several precautions to minimize response bias (see page breaks annotations in Appendix B), but the charitable giving motivations listed in the closed-ended questions early in the survey could have influenced answers to the later open-ended questions. Additionally, due to resource constraints, race, ethnicity, and education level were not included as demographic variables in the study design. Questions about respondents' tobacco use (or lack thereof) were also omitted from the survey, which would have been particularly relevant to this research.

In terms of generalizability of the results, the sample was not representative of household income, and only marginally representative of age group. Although donor status was determined to be representative of the US population, the fact that SurveyMonkey Contribute rewarded respondents with small charitable contributions may have rendered selection bias in the questions about charitable giving motivations. Also, the fact that the survey could only be completed online (i.e., on a computer with an Internet connection) may have slightly influenced the results; furthermore, nearly forty percent of respondents used a mobile or tablet device to complete the survey.

Finally, respondents' knowledge of smoking as it relates to lung cancer was effectively used as a proxy for knowledge of tobacco use and related consequences. So, while these results are certainly applicable to organizations that aim to curb smoking and prevent lung cancer, they may be less applicable to organizations with broader missions to prevent use of alternative tobacco products (e.g., smokeless tobacco) and other tobacco-related morbidity.

Appendix A: Estimated tobacco control "share" of unrestricted contributions to the American Lung Association (FY 2014)

American Lung Association (ALA) affiliate	Program expenses (FY 2014)			Unrestricted contributions (FY 2014)	
	Total	Tobacco control		Total	Tobacco control "share" (est.)
National	$49,509,172	$2,031,741	4.1%	$4,769,612	*$195,734*
California	$9,328,909	$4,961,220	53.2%	$6,279,058	*$3,339,275*
Mid-Atlantic	$8,468,715	$5,220,787	61.6%	$4,887,904	*$3,013,291*
Midland States	$4,756,776	$1,119,075	23.5%	$4,669,976	*$1,098,655*
Mountain Pacific	$3,602,186	$1,973,060	54.8%	$6,012,375	*$3,293,216*
Northeast	$10,041,373	$3,171,434	31.6%	$12,853,222	*$4,059,519*
Southeast	$6,423,023	$939,062	14.6%	$4,819,088	*$704,563*
Southwest	$6,803,407	$2,254,759	33.1%	$2,904,152	*$962,483*
Upper Midwest	$22,328,901	$9,239,975	41.4%	$9,113,697	*$3,771,360*
ALA totals	**$121,262,462**	**$30,911,113**	**25.5%**	**$56,309,084**	***$20,438,095***

Source: American Lung Association audited financial statements for fiscal year 2014

Appendix B: Annotated survey instrument

The following anonymous survey includes questions about your past charitable giving activity, current charitable giving motivations, knowledge of various health risks, and opinions about charitable giving in relation to certain health risks. You will not be asked to provide identifying information, nor will your IP address be collected. The data that you provide will be aggregated and analyzed for a graduate student's thesis project. By participating in this survey, you agree to answer the questions to the best of your abilities without consulting outside sources, and consent to the possible transfer of your response data to various countries, including the United States and other locations in which SurveyMonkey has offices. If you have any questions about the survey, please email surveyquestions156@gmail.com.

Do you agree to the above terms? By selecting 'Yes', you are providing consent to have your response data processed as described above.
[If 'Yes', respondent is qualified and proceeds to the survey questions; if 'No', respondent is disqualified and no questions are asked]

1. **In the past 12 months, have you made any financial contributions to a charitable or nonprofit organization or group?** Note: This *excludes* any charitable donations that you generate from participating in SurveyMonkey surveys.
    - Yes
    - No

[If 'Yes', respondent segmented as "current donor" during post-survey results analysis; if 'No', respondent segmented as "non-donor" during post-survey results analysis]

2. **Rate the importance of each of the following factors in your decision to donate to a given organization:**

	Not at all important	Slightly important	Moderately important	Very important	Extremely important
Stories about specific individuals helped by the organization					
Any personal connection that you may have to the organization/its program(s)					
Measurable results of the organization's work in helping people					
The cost-effectiveness of the organization's program(s)					

[Weights for ratings ranged from 1 (not at all important) to 5 (extremely important)]

3. **Rank the reasons for why you might consider making a donation to a given organization** (tip: drag and drop the choices in order of preference, with your first choice at the top of the list):

    - Providing basic needs for people who are poor/disadvantaged
    - Giving poor/disadvantaged people a way to help themselves
    - Giving others opportunities that you had
    - Feeling that those who have more resources should help those with fewer resources
    - Want to address fundamental problems in our world
    - Helping people live longer, healthier lives
    - Want to provide services government cannot or will not provide
    - Desire to make your community and/or the world a better place to live
    - Supporting positive efforts of friends, colleagues, or family
    - Make decisions about where you spend your money, rather than letting government decide
    - Ensuring tolerance for people's differences in ideals, beliefs, and cultures
    - Other

[With the exception of 'Other', the reasons were ordered randomly for each respondent]

[Next page]

The next six questions require you to type brief responses.

4. **What *diseases/conditions* do you think are the three leading causes of death in the United States?**

[Open-ended; responses categorized and coded during post-survey results analysis]

5. **What *behaviors* do you think are the three leading causes of death in the United States?**

[Open-ended; responses categorized and coded in post-survey results analysis]

[Next page; page break used to prevent revision of answers after viewing following questions]

6. **Which three types of cancer do you think are are the most commonly *diagnosed* among <u>men</u> in the United States?**

[Open-ended; responses categorized and coded during post-survey results analysis]

7. **Which three types of cancer do you think are are the most commonly *diagnosed* among <u>women</u> in the United States?**

[Open-ended; responses categorized and coded during post-survey results analysis]

8. **Which cancer do you think causes the most *deaths* among <u>men</u> in the United States?**

[Open-ended; responses categorized and coded during post-survey results analysis]

9. **Which cancer do you think causes the most *deaths* among <u>women</u> in the United States?**

[Open-ended; responses categorized and coded during post-survey results analysis]

[Next page; page break used to prevent revision of answers after viewing following questions]

10. **Have you ever made a donation to a charitable or nonprofit organization or group with a health-related mission?** Note: This excludes any charitable donations that you generate from participating in SurveyMonkey surveys.
    - Yes
    - No

[If 'Yes', respondent segmented as "ever donor to an organization with a health-related mission" during post-survey results analysis; if 'No', respondent skipped question 11]

[Next page]

11. **Why did you donate to one or more organizations or groups with a health-related mission?**

[Open-ended; responses categorized and coded during post-survey results analysis]

[Next page]

12. **What behavior or activity do you think is the main cause of <u>lung</u> cancers?**

[Open-ended; responses categorized and coded during post-survey results analysis]

[Next page; page break used to prevent revision of answers after viewing following questions]

13. **Have you ever made a donation to an organization or group that works on tobacco prevention?**
    - Yes
    - No

[If 'Yes', respondent segmented as "ever donor to an organization working in tobacco prevention" during post-survey results analysis and respondent skipped questions 15-17; if 'No', respondent skipped question 14]

[Next page]

14. **Why did you donate to one or more organizations or groups working in tobacco prevention?**

[Open-ended; responses categorized and coded during post-survey results analysis]

[Next page]

15. **Have you ever considered making a donation to an organization or group that works on tobacco prevention?**
    - Yes
    - No

[If 'Yes', respondent skipped question 17; if 'No', respondent skipped question 16]

[Next page]

16. **Why do you think donating to an organization or group working in tobacco prevention might be important?**

[Open-ended; responses categorized and coded during post-survey results analysis]

[Next page]

17. **Why have you not considered making a donation to an organization or group working in tobacco prevention?**

[Open-ended; responses categorized and coded during post-survey results analysis]

[Next page]

18. **Please rank the following tobacco prevention program areas in terms of your relative interest in supporting them** (tip: drag and drop the choices in order of preference, with your first choice at the top of the list):
    - Youth education: Educating youth and young adults about the harms of tobacco use
    - Cessation/treatment: Providing resources for people who use tobacco to help them quit using tobacco
    - Policy advocacy: Persuading the public and lobbying government to enact tobacco policies that reduce tobacco use (e.g., smoke-free public places, tobacco excise taxes, prohibiting sale of tobacco to minors)
    - Research: Studying tobacco addiction and harms, evaluating interventions, and identifying solutions

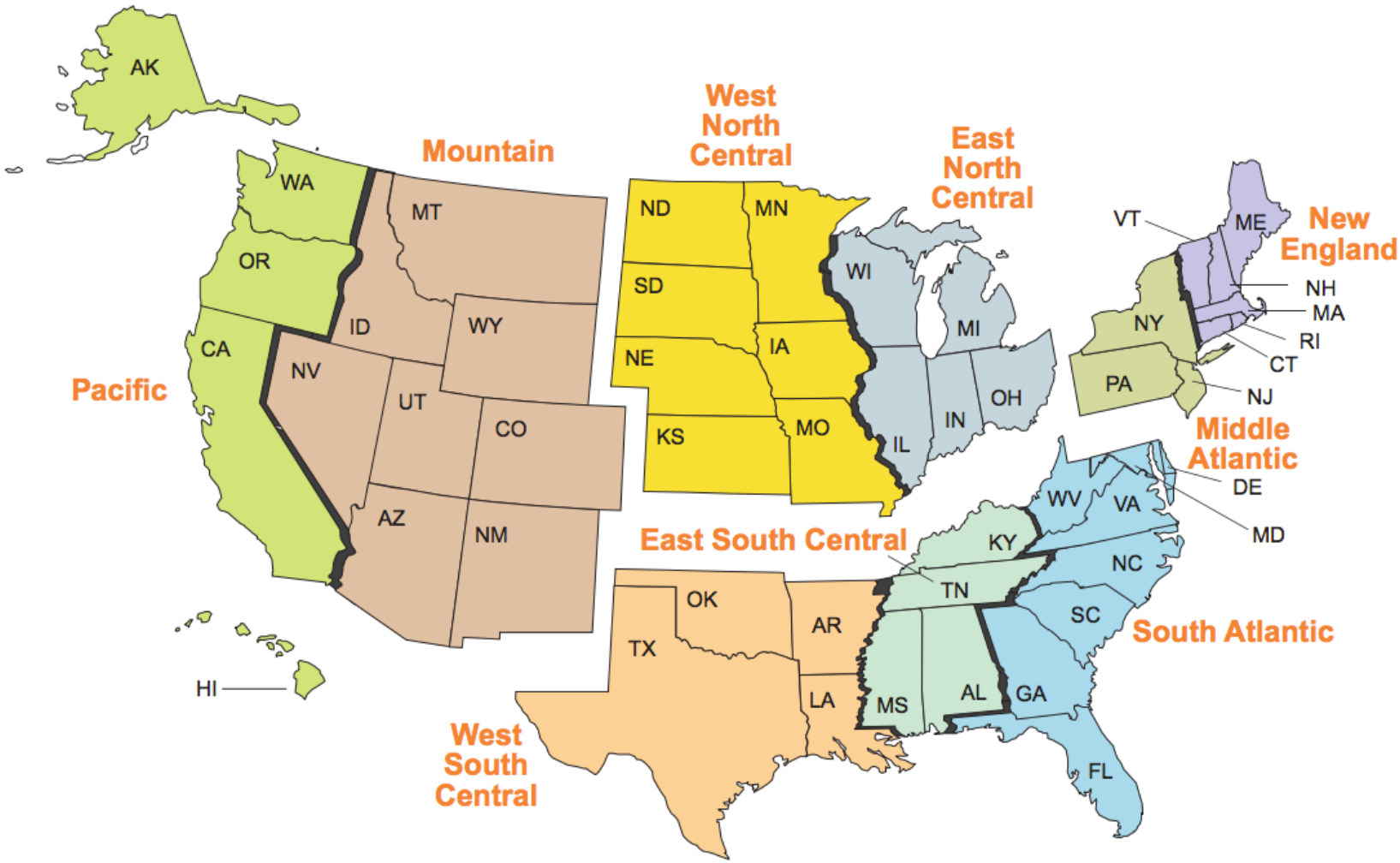
[Program areas were ordered randomly for each respondent]

19. **What might make you more likely to donate to a charitable or nonprofit organization that works on tobacco prevention?**

[Open-ended; responses categorized and coded during post-survey results analysis; if "nothing" or similar response, respondent segmented as "obstinate"; all other respondents segmented as "receptive"]

[End of survey]

Appendix C: Map of US Regions



Source: U.S. Energy Information Administration

Appendix D: Word cloud of responses (n = 177) to 'Why did you donate to one or more organizations or groups with a health-related mission?'

Word cloud generated using Wordle.net

Appendix E: Results of knowledge "quiz" questions, compared to reality

Table E1: Leading causes of death (disease/condition)

Disease/condition	Number of annual deaths (2015)[122]	% of respondents listing
Heart disease	614,348	72.7%
Cancer	***591,699***	***80.0%***
Chronic lower respiratory diseases	147,101	4.9%
Accidents (unintentional injuries)	136,053	8.6%*
Stroke (cerebrovascular diseases)	133,103	11.0%
Alzheimer's disease	93,541	2.4%
Diabetes	76,488	23.7%
Influenza and pneumonia	55,227	2.0%
Nephritis, nephrotic syndrome and nephrosis	48,146	0.8%
Intentional self-harm (suicide)	42,773	1.6%

*Includes medical error and excludes drug-related deaths (e.g., overdose)

Table E2: Leading causes of death (behavior/activity)

Behavior/activity	Approximate number of annual deaths (2000)[123]	% of respondents listing
Tobacco	***435,000***	***40.0%***
Poor diet and physical inactivity	400,000	56.3%
Alcohol consumption	85,000	35.1%*
Microbial agents	75,000	1.2%
Toxic agents	55,000	2.4%
Motor vehicle	43,000	15.9%**
Firearms	29,000	4.1%
Sexual behavior	20,000	2.0%
Illicit drug use	17,000	28.2%***

*Includes drinking and driving; **Includes "accidents" and "texting" (presumably while driving); ***Includes "substance abuse" and "addiction"

Table E3: Leading cancer diagnoses among men

Cancer site/system	Estimated new cases (2016)[124]	% of respondents listing
Genital system (e.g., prostate, testis, penis)	191,640	86.1%
Digestive system (e.g., colon, liver & intrahepatic bile duct, pancreas)	172,530	52.7%
Respiratory system (e.g., lung & bronchus, larynx)	***132,620***	***72.2%***
Urinary system (e.g., bladder, kidney & renal pelvis, ureter)	100,920	2.0%
Skin (excluding basal & squamous; e.g., melanoma)	51,650	25.7%
Lymphoma (e.g., Non-Hodgkin, Hodgkin)	44,960	1.6%
Oral cavity & pharynx (e.g., pharynx, tongue, mouth)	34,780	4.1%
Leukemia (e.g., acute myeloid, chronic lymphocytic)	34,090	3.3%
Myeloma	17,900	0.0%

Table E4: Leading cancer diagnoses among women

Cancer site/system	Estimated new cases (2016)[125]	% of respondents listing
Breast	246,660	93.1%
Digestive system (e.g., colon, liver & intrahepatic bile duct, pancreas)	132,400	24.5%
Respiratory system (e.g., lung & bronchus, larynx)	***111,200***	***56.3%***
Genital system (e.g., uterine corpus, ovary, uterine cervix)	105,890	44.5%
Endocrine system (e.g., thyroid)	50,530	1.2%
Urinary system (e.g., bladder, kidney & renal pelvis, ureter)	42,270	1.2%
Lymphoma (e.g., Non-Hodgkin, Hodgkin)	36,120	1.2%
Skin (excluding basal & squamous; e.g., melanoma)	31,860	30.2%
Leukemia (e.g., acute myeloid, chronic lymphocytic)	26,050	2.0%

Table E5: Leading cancer deaths among men

Cancer site/system	Estimated deaths (2016)[126]	% of respondents listing
Respiratory system (e.g., lung & bronchus, larynx)	***89,320***	***33.1% (44.9%)****
Digestive system (e.g., colon, liver & intrahepatic bile duct, pancreas)	88,700	17.1%
Genital system (e.g., prostate, testis, penis)	26,840	24.9%
Urinary system (e.g., bladder, kidney & renal pelvis, ureter)	23,900	0.4%
Leukemia (e.g., acute myeloid, chronic lymphocytic)	21,600	0.0%

*Parenthetical figure represents respondents who mentioned lung cancer among other cancers

Table E6: Leading cancer deaths among women

Cancer site/system	Estimated deaths (2016)[127]	% of respondents listing
Respiratory system (e.g., lung & bronchus, larynx)	***73,190***	***15.5% (20.8%)****
Digestive system (e.g., colon, liver & intrahepatic bile duct, pancreas)	64,330	5.3%
Breast	40,450	43.3%
Genital system (e.g., uterine corpus, ovary, uterine cervix)	30,890	11.4%
Leukemia (e.g., acute myeloid, chronic lymphocytic)	18,800	0.8%

*Parenthetical figure represents respondents who mentioned lung cancer among other cancers

Appendix F: Results of binomial regression of "obstinacy" on seven knowledge indicators

Knowledge variable	Beta	S.E.	Wald χ^2	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
Cancer as leading cause of death in US	-.341	.409	.694	1	.405	.711	.319	1.586
Tobacco use as leading cause of death in US	-.241	.317	.578	1	.447	.786	.422	1.463
Lung cancer as top-three cancer diagnosis among men	.472	.387	1.483	1	.223	1.603	.750	3.424
Lung cancer as top-three cancer diagnosis among women	-.306	.388	.624	1	.430	.736	.344	1.575
Lung cancer as deadliest cancer among men	-.685	.408	2.822	1	.093	.504	.227	1.121
Lung cancer as deadliest cancer among women	.412	.474	.755	1	.385	1.510	.596	3.825
Smoking as cause of most lung cancers	-1.154	.434	7.076	1	.008	.315	.135	.738
Constant	.263	.505	.270	1	.603	1.300		

Bibliography

[1] The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General. (2014). United States Department of Health & Human Services. Retrieved from http://www.surgeongeneral.gov/library/reports/50-years-of-progress/index.html.
[2] Mokdad, A., Marks, J., Stroup, D., & Gerberding, J. (2004). Actual causes of death in the United States. *JAMA : The Journal of the American Medical Association*, *291*(10), 1238–1245. http://doi.org/10.1001/jama.271.9.660c.
[3] Tobacco-Related Mortality. (2015). Centers for Disease Control and Prevention. Retrieved from http://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/tobacco_related_mortality/.
[4] Health Effects of Cigarette Smoking. (2015). Centers for Disease Control and Prevention. Retrieved from http://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/effects_cig_smoking/index.htm.
[5] Deaths and Mortality. (2016). Centers for Disease Control and Prevention. Retrieved from http://www.cdc.gov/nchs/fastats/deaths.htm.
[6] The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General. (2014). United States Department of Health & Human Services. Retrieved from http://www.surgeongeneral.gov/library/reports/50-years-of-progress/index.html.
[7] Cancer Facts & Figures 2016. (2016). American Cancer Society. Retrieved from http://www.cancer.org/research/cancerfactsstatistics/cancerfactsfigures2016/.
[8] Current Cigarette Smoking Among Adults in the United States. (2015). Centers for Disease Control and Prevention. Retrieved from http://www.cdc.gov/tobacco/data_statistics/fact_sheets/adult_data/cig_smoking/index.htm.
[9] Jha, P., Ramasundarahettige, C., Landsman, V., Rostron, B., Thun, M., Anderson, R. N., … Peto, R. (2013). 21st-Century Hazards of Smoking and Benefits of Cessation in the United States. *The New England Journal of Medicine*. http://doi.org/10.1056/NEJMsa1211128.
[10] The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General. (2014). United States Department of Health & Human Services. Retrieved from http://www.surgeongeneral.gov/library/reports/50-years-of-progress/index.html.
[11] Current Cigarette Smoking Among Adults in the United States. (2015). Centers for Disease Control and Prevention. Retrieved from http://www.cdc.gov/tobacco/data_statistics/fact_sheets/adult_data/cig_smoking/index.htm.
[12] Current Cigarette Smoking Among Adults in the United States. (2015). Centers for Disease Control and Prevention. Retrieved from http://www.cdc.gov/tobacco/data_statistics/fact_sheets/adult_data/cig_smoking/index.htm.
[13] Lesbian, Gay, Bisexual, and Transgender Persons and Tobacco Use. (2016). Centers for Disease Control and Prevention. Retrieved from http://www.cdc.gov/tobacco/disparities/lgbt/index.htm.
[14] Cigarette Smoking and Tobacco Use Among People of Low Socioeconomic Status. (2016). Centers for Disease Control and Prevention. Retrieved from http://www.cdc.gov/tobacco/disparities/low-ses/index.htm.

[15] Williams, J. M., Stroup, T. S., Brunette, M. F., & Raney, L. E. (2014). Tobacco Use and Mental Illness: A Wake-Up Call for Psychiatrists. *Psychiatric Services*, *65*(12), 1–3. http://doi.org/10.1176/appi.ps.201400235.
[16] Proctor, R. N. (2012). The history of the discovery of the cigarette-lung cancer link: evidentiary traditions, corporate denial, global toll. *Tobacco Control*, *21*(2), 87–91. http://doi.org/10.1136/tobaccocontrol-2011-050338
[17] Cancer Facts & Figures 2016. (2016). American Cancer Society. Retrieved from http://www.cancer.org/research/cancerfactsstatistics/cancerfactsfigures2016/.
[18] Warner, K. E., Sexton, D. W., Gillespie, B. W., Levy, D. T., & Chaloupka, F. J. (2014). Impact of Tobacco Control on Adult per Capita Cigarette Consumption in the United States. *American Journal of Public Health, 104*(1), 83–89.
[19] Moolgavkar, S. H., Holford, T. R., Levy, D. T., Kong, C. Y., Foy, M., Clarke, L., …, Feuer, E.J. (2012). Impact of reduced tobacco smoking on lung cancer mortality in the United States during 1975–2000. *Journal of the National Cancer Institute, 104*(7), 541-548.
[20] Key statistics for lung cancer. (2016). American Cancer Society. Retrieved from http://www.cancer.org/cancer/lungcancer-non-smallcell/detailedguide/non-small-cell-lung-cancer-key-statistics.
[21] Cancer Facts & Figures 2016. (2016). American Cancer Society. Retrieved from http://www.cancer.org/research/cancerfactsstatistics/cancerfactsfigures2016/.
[22] Cancer Prevalence: How Many People Have Cancer? http://www.cancer.org/cancer/cancerbasics/cancer-prevalence.
[23] Cancer Facts & Figures 2016. (2016). American Cancer Society. Retrieved from http://www.cancer.org/research/cancerfactsstatistics/cancerfactsfigures2016/.
[24] Farrelly, M. C., Pechacek, T. F., Thomas, K. Y., & Nelson, D. (2008). The impact of tobacco control programs on adult smoking. *American Journal of Public Health*, *98*(2), 304–309. http://doi.org/10.2105/AJPH.2006.106377.
[25] Farrelly, M. C., Loomis, B. R., Kuiper, N., Han, B., Gfroerer, J., Caraballo, R. S., … Couzens, G. L. (2014). Are tobacco control policies effective in reducing young adult smoking? *Journal of Adolescent Health*, *54*(4), 481–486. http://doi.org/10.1016/j.jadohealth.2013.09.015.
[26] Wilson, L. M., Avila Tang, E., Chander, G., Hutton, H. E., Odelola, O. A., Elf, J. L., … Apelberg, B. J. (2012). Impact of tobacco control interventions on smoking initiation, cessation, and prevalence: a systematic review. *Journal of Environmental and Public Health*. http://doi.org/10.1155/2012/961724
[27] Ebrahim, A., & Rangan, V. K. (2014). What Impact? *California Management Review*, *56*(3), 118–141.
[28] Fineberg, H. V. (2013). The paradox of disease prevention: celebrated in principle, resisted in practice. *JAMA: The Journal of the American Medical Association, 310*(1), 85–90. http://doi.org/10.1001/jama.2013.7518.
[29] Messer, K., Trinidad, D. R., Al-Delaimy, W. K., & Pierce, J. P. (2008). Smoking cessation rates in the United States: A comparison of young adult and older smokers. *American Journal of Public Health*, *98*(2), 317–322. http://doi.org/10.2105/AJPH.2007.112060.
[30] Jha, P., Ramasundarahettige, C., Landsman, V., Rostron, B., Thun, M., Anderson, R. N., … Peto, R. (2013). 21st-Century Hazards of Smoking and Benefits of Cessation in the United States. *The New England Journal of Medicine*. http://doi.org/10.1056/NEJMsa1211128.

[31] Fiore M. C., Jaén, C. R., Baker, T. B., et al. (2008). Treating Tobacco Use and Dependence: 2008 Update. Clinical Practice Guideline. U.S. Department of Health and Human Services. Public Health Service. Retrieved from http://www.ncbi.nlm.nih.gov/books/NBK63952/.
[32] Graham, A., Chang, Y., Fang, Y., Cobb, N., Tinkelman, D., Niaura, R., Abrams, D., & Mandelblatt, J. (2013). Cost-effectiveness of internet and telephone treatment for smoking cessation: an economic evaluation of The iQUITT Study. *Tob Control, 22*(6):e11.
[33] Hollis, J., McAfee, T., Fellows, J., Zbikowski, S., Stark, M., & Riedlinger, K. (2007). The effectiveness and cost effectiveness of telephone counselling and the nicotine patch in a state tobacco quitline. *Tob Control, 16* Suppl 1:i53-9.
[34] Knight, C., Howard, P., Baker, C., & Marton, J. (2010). The cost-effectiveness of an extended course (12+12 weeks) of varenicline compared with other available smoking cessation strategies in the United States: an extension and update to the BENESCO model. *Value Health, 13*(2):209-14.
[35] Pesis-Katz, I., Williams, G., Niemiec, C., & Fiscella, K. (2011). Cost-Effectiveness of Intensive Tobacco Dependence Intervention Based on Self-Determination Theory. *The American Journal of Managed Care*, *17*(10), e393–e398.
[36] Xu, X., Alexander, R. Jr, Simpson, S., Goates, S., Nonnemaker, J., Davis, K., McAfee, T. (2015). A cost-effectiveness analysis of the first federally funded antismoking campaign. *Am J Prev Med, 48*(3), 318-25.
[37] Ross, H., Powell, L., Bauer, J., Levy, D., Peck, R., & Lee, H. (2006). Community-based youth tobacco control interventions: cost effectiveness of the Full Court Press project. *Appl Health Econ Health Policy, 5*(3):167-76.
[38] Ledyard, J. O. "market failure." The New Palgrave Dictionary of Economics. Second Edition. Eds. Steven N. Durlauf and Lawrence E. Blume. Palgrave Macmillan, 2008. The New Palgrave Dictionary of Economics Online. Palgrave Macmillan. Retrieved from http://www.dictionaryofeconomics.com/article?id=pde2008_M000056
[39] Bloom, G., Standing, H., & Lloyd, R. (2008). Markets, information asymmetry and health care: Towards new social contracts. *Social Science & Medicine, 66*(10), 2076-2087.
[40] Brandt, A. M. (2012). Inventing conflicts of interest: A history of Tobacco industry tactics. *American Journal of Public Health*, *102*(1), 63–71. http://doi.org/10.2105/AJPH.2011.300292
[41] Youth and Tobacco Use. (2016). Centers for Disease Control and Prevention. Retrieved from http://www.cdc.gov/tobacco/data_statistics/fact_sheets/youth_data/tobacco_use/index.htm.
[42] Quitting Smoking. (2015). Centers for Disease Control and Prevention. Retrieved from http://www.cdc.gov/tobacco/data_statistics/fact_sheets/cessation/quitting/.
[43] Broken Promises to Our Children. (2015). Campaign For Tobacco-free Kids. Retrieved from http://www.tobaccofreekids.org/microsites/statereport2016.
[44] Tobacco Industry Marketing. (2015). Centers for Disease Control and Prevention. Retrieved from http://www.cdc.gov/tobacco/data_statistics/fact_sheets/tobacco_industry/marketing/index.htm.
[45] Master Settlement Agreement. Public Health Law Center. Retrieved from http://publichealthlawcenter.org/topics/tobacco-control/tobacco-control-litigation/master-settlement-agreement.
[46] Landman, A., Ling, P. M., & Glantz, S. A. (2002). Tobacco Industry Youth Smoking Prevention Programs: Protecting the Industry and Hurting Tobacco Control. *American Journal of Public Health, 92*(6), 917–930.

[47] State Cigarette Tax Rates & Rank, Date of Last Increase, Annual Pack Sales & Revenues, and Related Data. Campaign For Tobacco-free Kids. Retrieved from http://www.tobaccofreekids.org/research/factsheets/pdf/0099.pdf.
[48] Chaloupka, F. J., Yurekli, A, & Fong, G. T. (2012). Tobacco taxes as a tobacco control strategy. *Tobacco Control, 21*(2), 172-180.
[49] Broken Promises to Our Children. (2015). Campaign For Tobacco-free Kids. Retrieved from http://www.tobaccofreekids.org/microsites/statereport2016.
[50] Payne, A. (1998). Does the government crowd-out private donations? Newevidence from a sample of non-profit firms. *Journal of Public Economics, 69*, 323-345.
[51] Carver, V., Reinert, B., Range, L. M., Campbell, C., & Boyd, N. (2003). Nonprofit organizations versus government agencies to reduce tobacco use. *Journal of Public Health Policy*, *24*(2), 181–194. http://doi.org/10.2307/3343512.
[52] Frumkin, P. (2002). *On Being Nonprofit*. Page 20.
[53] Frumkin, P. (2002). *On Being Nonprofit*. Page 21.
[54] Nash, C. M., Vickerman, K. A., Kellogg, E. S., & Zbikowski, S. M. (2015). Utilization of a Web-based vs Integrated Phone/Web Cessation Program Among 140,000 Tobacco Users: An Evaluation Across 10 Free State Quitlines. *Journal of Medical Internet Research, 17*(2): e36.
[55] Ebrahim, A., & Rangan, V. K. (2014). What Impact? *California Management Review*, *56*(3), 118–141.
[56] Emerson, J., Wachowicz, J., & Chun, S. (2000). Social Return on Investment: Exploring Aspects of Value Creation in the Nonprofit Sector. *Social Purpose Enterprises and Venture Philanthropy in the New Millennium*, 132–173. Retrieved from http://www.setoolbelt.org/resources/1206.
[57] About GiveWell. GiveWell. Retrieved from http://www.givewell.org/about.
[58] Criteria and summary of process. GiveWell. Retrieved from http://www.givewell.org/criteria.
[59] Tobacco control in low- and middle-income countries. GiveWell. Retrieved from http://www.givewell.org/labs/causes/tobacco-control.
[60] McKeever, B. (2015). The Nonprofit Sector in Brief. Retrieved from http://www.urban.org/sites/default/files/alfresco/publication-pdfs/2000497-The-Nonprofit-Sector-in-Brief-2015-Public-Charities-Giving-and-Volunteering.pdf.
[61] National Taxonomy of Exempt Entities. (2016). National Center for Charitable Statistics. Retrieved from http://nccs.urban.org/classification/ntee.cfm.
[62] Internal Revenue Service, Exempt Organizations Business Master File (11/2015). The Urban Institute, National Center for Charitable Statistics. Retrieved from http://nccsweb.urban.org/.
[63] Internal Revenue Service, Exempt Organizations Business Master File (11/2015). The Urban Institute, National Center for Charitable Statistics. Retrieved from http://nccsweb.urban.org/.
[64] Internal Revenue Service, Exempt Organizations Business Master File (11/2015). The Urban Institute, National Center for Charitable Statistics. Retrieved from http://nccsweb.urban.org/.
[65] Current Grants by Cancer Type. (2016). American Cancer Society. Retrieved from http://www.cancer.org/research/currentlyfundedcancerresearch/grants-by-cancer-type.

[66] Every Day – The American Cancer Society 2015 Annual Stewardship Report. (2015). American Cancer Society. Retrieved from http://www.cancer.org/aboutus/whoweare/financialinformation/stewardship-report.
[67] Saad, L. (2009). "Most Urgent U.S. Health Problem" Still Access to Healthcare. *Gallup*.
[68] Grants Database. (2016). Bill & Melinda Gates Foundation. Retrieved from http://www.gatesfoundation.org/How-We-Work/Quick-Links/Grants-Database#q/issue=Tobacco.
[69] Tobacco Control. (2016). Bloomberg Philanthropies. Retrieved from http://www.bloomberg.org/program/public-health/tobacco-control/.
[70] Grants Database. (2016). Bill & Melinda Gates Foundation. Retrieved and aggregated from http://www.gatesfoundation.org/How-We-Work/Quick-Links/Grants-Database#q/issue=Tobacco.
[71] About the BI Grants Program. (2009). Bloomberg Philanthropies. Retrieved from http://tobaccocontrolgrants.org/Pages/2/About-the-BI-Grants-Program.
[72] Gerlach, K. K., & Larkin, M. A. (2005). The SmokeLess States Program. In *To Improve Health and Health Care, Vol. VIII: The Robert Wood Johnson Foundation Anthology*.
[73] Grants. (2016). Robert Wood Johnson Foundation. Retrieved and aggregated from http://www.rwjf.org/en/how-we-work/grants/search.html?sort=SCORE-desc&k=tobacco.
[74] Gerlach, K. K., & Larkin, M. A. (2005). The SmokeLess States Program. In *To Improve Health and Health Care, Vol. VIII: The Robert Wood Johnson Foundation Anthology*.
[75] Grants. (2016). Robert Wood Johnson Foundation. Retrieved and aggregated from http://www.rwjf.org/en/how-we-work/grants/search.html?sort=SCORE-desc&k=tobacco.
[76] Giving USA: Americans Donated an Estimated $358.38 Billion to Charity in 2014; Highest Total in Report's 60-year History. (2015). The Giving Institute. Retrieved from http://givingusa.org/giving-usa-2015-press-release-giving-usa-americans-donated-an-estimated-358-38-billion-to-charity-in-2014-highest-total-in-reports-60-year-history/.
[77] American Legacy Foundation. (2014). Return of Organization Exempt from Income Tax (Form 990). Retrieved from http://www.guidestar.org/FinDocuments/2014/911/956/2014-911956621-0ae258b2-9.pdf.
[78] Daniels, A. (2016). Advocacy Group Shows How Rebranding Can Rebuild Momentum. *Chronicle of Philanthropy*, 1–5.
[79] Who We Are. (2016). Campaign For Tobacco-Free Kids. Retrieved from https://www.tobaccofreekids.org/who_we_are/.
[80] Annual Reports. (2016). Campaign For Tobacco-Free Kids. Retrieved and calculated from four annual reports linked to https://www.tobaccofreekids.org/who_we_are/annual_reports/.
[81] History & Goals. (2016). Americans for Nonsmokers' Rights. Retrieved from http://www.no-smoke.org/aboutus.php?id=443.
[82] About. (2016). American Nonsmokers' Rights Foundation. Retrieved and calculated from three annual reports linked to http://www.anrf.org/about.html.
[83] Our Mission. (2016). American Lung Association. Retrieved from http://www.lung.org/about-us/mission-impact-and-history/our-mission.html.
[84] Financial Statements. (2016). American Lung Association. Retrieved and calculated from nine audited financial statements linked to http://www.lung.org/about-us/financial-statements/.
[85] Lung Cancer Facts. (2016). American Lung Association. Retrieved from http://www.lungforce.org/lung-cancer-facts.

[86] Life's Simple 7. (2016). American Heart Association. Retrieved from http://heartinsight.heart.org/Lifes-Simple-7/.
[87] American Heart Association. (2015). Return of Organization Exempt from Income Tax (Form 990). Retrieved from http://www.guidestar.org/FinDocuments/2015/135/613/2015-135613797-0c508263-9.pdf.
[88] Vesterlund, L. (2006). Why Do People Give? *The Nonprofit Sector: A Research Handbook 2*, 568 –587. Retrieved from http://www2.pitt.edu/~vester/whydopeoplegive.pdf.
[89] Andreoni, J. (1990). Impure Altruism and Donations to Public Goods: A Theory of Warm-Glow Giving. *The Economic Journal*, *100*(June), 464–477. http://doi.org/10.1016/0305-0491(79)90152-4.
[90] US Trust and Lilly Family School of Philanthropy. (2014). The 2014 US Trust Study of high net worth philanthropy.
[91] Vesterlund, L. (2006). Why Do People Give? *The Nonprofit Sector: A Research Handbook 2*, 568 –587. Retrieved from http://www2.pitt.edu/~vester/whydopeoplegive.pdf.
[92] US Trust and Lilly Family School of Philanthropy. (2014). The 2014 US Trust Study of high net worth philanthropy.
[93] Singer, P. (2013). Heartwarming causes are nice, but let's give to charity with our heads. *The Washington Post*. Retrieved from https://www.washingtonpost.com/opinions/heartwarming-causes-are-nice-but-lets-give-to-charity-with-our-heads/2013/12/19/43469ae0-6731-11e3-a0b9-249bbb34602c_story.html.
[94] Small, D. a., Loewenstein, G., & Slovic, P. (2007). Sympathy and callousness: The impact of deliberative thought on donations to identifiable and statistical victims. *Organizational Behavior and Human Decision Processes*, *102*(2), 143–153. http://doi.org/10.1016/j.obhdp.2006.01.005.
[95] Anft, M. (2015). Scientists to Charities: You're Doing It All Wrong. *Chronicle of Philanthropy*, 1–7.
[96] McDermott, M. (2009). Understanding Donors' Motivations. *The Center on Philanthropy at Indiana Univeristy*.
[97] Dugan, A. (2013). In U.S., Support for Complete Smoking Ban Increases to 22%. Gallup. Retrieved from http://www.gallup.com/poll/163736/support-complete-smoking-ban-increases.aspx.
[98] Friedman, L. C., Cheyne, A., Givelber, D., Gottlieb, M. A., & Daynard, R. A. (2015). Tobacco industry use of personal responsibility rhetoric in public relations and litigation: Disguising freedom to blame as freedom of choice. *American Journal of Public Health*, *105*(2), 250–260. http://doi.org/10.2105/AJPH.2014.302226.
[99] Sambasivarao, S. V. (2013). Perceptions of smokers influence nonsmoker attitudes and preferences for interactions. *Journal of Applied Social Psychology*, *18*(9), 1199–1216. http://doi.org/10.1016/j.micinf.2011.07.011.Innate.
[100] Jacobsson, F., Johannesson, M., & Borgquist, L. (2007). Is Altriusm Paternalistic? *Economic Journal*, *117*, 761–781. Retrieved from http://onlinelibrary.wiley.com/doi/10.1111/j.1468-0297.2007.02049.x/full.
[101] Keyt, J. C., Yavas, U., & Riecken, G. (2002). Comparing Donor Segments to a Cause-Based Charity: The Case of the American Lung Association. *Journal of Nonprofit & Public Sector Marketing*, *10*(2), 117. http://doi.org/10.1300/J054v10n02

[102] Keyt, J. C., Yavas, U., & Riecken, G. (2002). Comparing Donor Segments to a Cause-Based Charity: The Case of the American Lung Association. *Journal of Nonprofit & Public Sector Marketing*, *10*(2), 117. http://doi.org/10.1300/J054v10n02
[103] Keyt, J. C., Yavas, U., & Riecken, G. (2002). Comparing Donor Segments to a Cause-Based Charity: The Case of the American Lung Association. *Journal of Nonprofit & Public Sector Marketing*, *10*(2), 117. http://doi.org/10.1300/J054v10n02
[104] Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Thousands Oaks, California: SAGE Publications.
[105] Our Audience. (2016). SurveyMonkey. Retrieved from https://www.surveymonkey.com/mp/audience/our-survey-respondents/.
[106] Rooney, P., Steinberg, K., & Schervish, P. (2004). Methodology Is Destiny: The Effect of Survey Prompts on Reported Levels of Giving and Volunteering. *Nonprofit and Voluntary Sector Quarterly*, *33*(4), 628–654. http://doi.org/10.1177/0899764004269312.
[107] Mcdermott, M. (2009). Understanding Donors' Motivations. *The Center on Philanthropy at Indiana University*.
[108] Deaths and Mortality. (2016). Centers for Disease Control and Prevention. Retrieved from http://www.cdc.gov/nchs/fastats/deaths.htm.
[109] Mokdad, A., Marks, J., Stroup, D., & Gerberding, J. (2004). Actual causes of death in the United States. *JAMA : The Journal of the American Medical Association*, *291*(10), 1238–1245. http://doi.org/10.1001/jama.271.9.660c.
[110] Cancer Facts & Figures 2016. (2016). American Cancer Society. Retrieved from http://www.cancer.org/research/cancerfactsstatistics/cancerfactsfigures2016/.
[111] McNaught, C. & Lam, P. (2010). Using Wordle as a Supplementary Research Tool. *The Qualitative Report, 15*(3), 630-643.
[112] U.S. Census Bureau, 2014 American Community Survey 1-Year Estimates. Retrieved from http://factfinder.census.gov.
[113] Health, United States, 2015 – Health Risk Factors. (2016). Centers for Disease Control and Prevention. Retrieved from http://www.cdc.gov/nchs/data/hus/2015/047.pdf.
[114] Women's Lung Heath Barometer: Media Summary. (2015). American Lung Association. Retrieved from http://www.lungforce.org/womens-lung-health-barometer-media-summary.
[115] Toll of Tobacco in the United States of America. (2016). Campaign For Tobacco-Free Kids. Retrieved from http://www.tobaccofreekids.org/research/factsheets/pdf/0072.pdf.
[116] Nutt, D., King, L. A., Saulsbury, W., & Blakemore, C. (2007). Development of a rational scale to assess the harm of drugs of potential misuse. *The Lancet, 369*, 1047-1053.
[117] Fiore M. C., Jaén, C. R., Baker, T. B., et al. (2008). Treating Tobacco Use and Dependence: 2008 Update. Clinical Practice Guideline. U.S. Department of Health and Human Services. Public Health Service. Retrieved from http://www.ncbi.nlm.nih.gov/books/NBK63952/.
[118] Healton, C., & Nelson, K. (2004). Reversal of Misfortune: Viewing Tobacco as a Social Justice Issue. *American Journal of Public Health*, *94*(2), 186-191.
[119] Malone, R. E., Grundy, Q., & Bero, L. A. (2012). Tobacco industry denormalisation as a tobacco control intervention: a review. *Tobacco Control, 21*, 162-170.
[120] Halpern, S. D., French, B., Small, D. S., Saulsgiver, K., Harhay, M. O., Audrain-McGovern, J., … Volpp, K. G. (2015). Randomized Trial of Four Financial-Incentive Programs for Smoking Cessation. *New England Journal of Medicine*, *372*, 2108–2117.
[121] Run to Quit. (2016). Canadian Cancer Society. Retrieved from http://www.runtoquit.com/.

[122] Deaths and Mortality. (2016). Centers for Disease Control and Prevention. Retrieved from http://www.cdc.gov/nchs/fastats/deaths.htm.
[123] Mokdad, A., Marks, J., Stroup, D., & Gerberding, J. (2004). Actual causes of death in the United States. *JAMA : The Journal of the American Medical Association*, *291*(10), 1238–1245. http://doi.org/10.1001/jama.271.9.660c.
[124] Cancer Facts & Figures 2016. (2016). American Cancer Society. Retrieved from http://www.cancer.org/research/cancerfactsstatistics/cancerfactsfigures2016/.
[125] Cancer Facts & Figures 2016. (2016). American Cancer Society. Retrieved from http://www.cancer.org/research/cancerfactsstatistics/cancerfactsfigures2016/.
[126] Cancer Facts & Figures 2016. (2016). American Cancer Society. Retrieved from http://www.cancer.org/research/cancerfactsstatistics/cancerfactsfigures2016/.
[127] Cancer Facts & Figures 2016. (2016). American Cancer Society. Retrieved from http://www.cancer.org/research/cancerfactsstatistics/cancerfactsfigures2016/.