

Testing of OSH Smoking Cessation Questions Results of Interviews Conducted September 2009-March 2010

Heather Ridolfo
Caroline Gray
Questionnaire Design Research Laboratory
National Center for Health Statistics
Centers for Disease Control and Prevention

Interviewing Team: Heather Ridolfo, Caroline Gray, Kristen Miller, Stephanie Willson, Aaron Maitland, and Elizabeth Weathersbee

Introduction

This report summarizes the findings from a research project designed to evaluate questions on smoking cessation. This evaluation is based on two rounds of interviews that were conducted in the Questionnaire Design Research Laboratory (QDRL) at the National Center for Health Statistics (NCHS). The project was funded by the Office on Smoking and Health (OSH) at the National Center for Chronic Disease Prevention (NCCDPHP).¹

Questions were evaluated using cognitive interviewing, a methodology used to uncover potential response problems that may not be readily apparent (Willis 2005). Cognitive interviewing can also be used to depict the meaning of the data that is captured in survey questionnaires (Miller 2009). The main goals of the project were to: 1) assess respondents' interpretation of the survey questions and gain a better understanding of the processes respondents engaged in when responding to the questions and 2) identify any potential question response problems that could lead to error in the survey data.

The following section outlines the cognitive testing methodology and describes how analysis of the data was conducted. The final section of the report provides a question-by-question summary of the findings.

Methodology

Sample

Two rounds of cognitive interviews were conducted. For both rounds, a purposive sample of respondents was recruited using newspaper advertisements, flyers, word-of-mouth, or by contacting participants from past QDRL projects. Respondents who were current smokers and have attempted to quit smoking in the last five years were recruited for the study. While we also attempted to recruit a diverse group of respondents in terms of race, gender, and socioeconomic statuses, the sample from Round 1 predominately consisted of low income, African American males, who were over the age of 35 (See Table 1). However, the sample from Round 1 was almost evenly split in terms of education, with 42% of the sample having a high school degree or less, and 58% having more than high school education. As in Round 1, respondents from Round

¹ Questions regarding dental health were also tested during this project. Results from that data can be found in Ridolfo and Gray 2010.

2 were also predominately older and African American. However, the sample from Round 2 was also predominately female and the majority of respondents had more than a high school education. Additionally, 46 percent of the respondents in Round 2 reported an income of \$20,000 or less and 54 percent reported an income of more than \$20,000.

Table 1: Demographic summary of respondents in total and for each round of testing

	Round 1	Round 2	Total(%)
	n=12	n=13	N=25
Age			
Under 35	2 (17%)	2 (15%)	4 (16%)
35 & Over	10 (83%)	11 (85%)	21 (84%)
Gender			
Female	3 (25%)	9 (69%)	12 (48%)
Male	9 (75%)	4 (31%)	13 (52%)
Race/Ethnicity			
Hispanic	0 (0%)	0 (0%)	0 (0%)
NH-White	1 (8%)	3 (23%)	4 (16%)
NH-Black	10 (83%)	9 (69%)	19 (76%)
Multi-racial	1 (8%)	0 (0%)	1 (4%)
DK	0 (0%)	1 (8%)	1 (4%)
Education			
High school or less	5 (42%)	2 (15%)	7 (28%)
More than high school	7 (58%)	11 (85%)	18 (72%)
Income			
Under 20,000	8 (67%)	6 (46%)	14 (56%)
20,000 and over	2 (17%)	7 (54%)	9 (36%)
DK	2 (17%)	0 (0%)	2 (8%)

Interviewing Procedures

Multiple versions of the questionnaire were tested across two rounds of cognitive interviews. In Round 2, questions 16-20 from Round 1 were revised and three new versions of these questions were tested. Copies of the questionnaires used during testing can be found in Appendices A and B.

While there are many methodologies for evaluating survey questions, the method used in this study was cognitive interviewing. Cognitive interviewing is a qualitative question evaluation method used to uncover potential response errors that can occur during the question response process and that may not be immediately obvious. These include problems with comprehension, recall, constructing responses, and the mapping of response onto the survey question (Willis 2005; Tourangeau, Rips, and Rasinski 2000). Additionally the method can be used to determine the validity of survey questions; that is whether questions measure the constructs they were intended to capture (Miller 2009).

All interviews were an hour long and respondents were paid \$40 for participating. During the interviews, retrospective, intensive verbal probing was used to collect response process data. In other words, respondents were first administered the questionnaire in its entirety, and then interviewers returned to each question and probed retrospectively. Probe questions included such things as: Why did you answer the way that you did? Can you tell me more about that? What do you think this question is asking? All interviews were videotaped; the videos and interview summaries were used to conduct the analysis.

Data Analysis

Data from the interviews were analyzed using qualitative techniques, specifically, the constant comparative method (Lincoln and Guba, 1985; Strauss and Corbin, 1990; Creswell, 1998). Analysts used Q-Notes, an analysis software tool developed by the National Center for Health Statistics. As data were entered into the Q-Notes software, patterns of question interpretation and cognitive processing problems were identified. Following procedures outlined by Glaser & Strauss (1967), our first step of data analysis, open coding, entailed reviewing the data and then naming and defining the analytic categories found in the data. Next, we performed axial coding, which involved refining the themes/categories that emerged from open coding. In order to specify the dimensionality of the themes/categories we compared respondents, whose narratives were assigned similar themes/categories, resolving any discrepancies between the themes/categories and noting similarities. Additionally, we examined the relationship of the themes/categories to each other. Finally we performed selective coding, which involved specifying the core themes that emerged from the analysis. These core themes served as the unifying link between all the themes/categories, and denoted a working theory that depicts the phenomena captured by the survey questions.

Summary of Findings

We uncovered several themes or issues that are applicable to the questionnaire on a broader level, either because they pertain to the topic in a general way or because they apply to similarly worded questions and/or response categories. At the front end of the questionnaire are questions that ask respondents to think about or reflect upon their last attempt to quit smoking. Specifically, Q3 and Q4 both ask respondents to characterize or describe “the last time when you tried to quit smoking.” Overall we found there was a lot of variability both between and within respondents’ descriptions of their quit attempts. Because quitting is often a process, or a gradual shift in behavior patterns, this reference to the “last time” proved to be somewhat tricky for respondents. While many respondents did describe their quit attempts as going “cold turkey” or stopping smoking abruptly and entirely, many others mentioned trying to gradually reduce the number of cigarettes smoked. In these instances, the reduction of cigarettes smoked may be part of an overall attempt to quit smoking but in some respondents’ minds, a quit attempt did not fully occur until they experienced cessation. Because of the fluid nature of giving up cigarettes and other tobacco products, respondents may simultaneously utilize a number of services or engage in activities intended to help the quitting process. One respondent who reported that he has tried quitting smoking 150 times explained that even the *thought* that he should stop smoking constitutes a quit attempt as far as he was concerned.

Through in-depth probing, we also learned that respondents were often inconsistent in how they understood the “last time,” with some merging various quit attempts together and others remembering any prior attempt rather than the chronological “last time.” There were also a number of respondents who were, at the time of the interview, trying to quit smoking and were not sure if they should answer based on their current efforts or based on the effort prior to their current quit attempt. For these reasons, questions asking about the last time respondents tried to quit smoking should keep in mind that the reference point may be fuzzy or somewhat confusing for respondents. These problems are detailed in greater depth later in this report.

At the other end of the questionnaire are several questions that make reference to a “health care provider.” This appeared to be an important component of these questions and therefore we probed frequently on how respondents were conceptualizing this subject. In general, respondents thought that health care provider referred to their primary care physician and answered the relevant questions based on this assumption. But there were instances where respondents thought that health care provider meant an insurance company, a doctor other than their primary care physician, or in one case, a stop smoking clinic. This could be potentially problematic as respondents might answer a question very differently if it is asking about an insurance company rather than a physician. For example, question (10) asks, “How likely are you to seek a health care provider for help in quitting?” This question takes on a very different meaning when health care provider is substituted with “health insurance provider” rather than “primary care physician.”

Several response items proved to be problematic for respondents. These items were provided in more than one question and therefore affect the questionnaire on an overall level. The most frequent source of confusion was the “mobile phone/pda” option. Respondents almost uniformly did not know what this was referring to or how it related to quitting smoking. While respondents are obviously familiar with mobile phones, how this constitutes a “service” that one might utilize to assist in efforts to quit smoking is less obvious or clear. There appeared to be an aversion to this response option because respondents did not understand what it was. This was somewhat of an issue for the “acupuncture” and “hypnosis” options as well. Some respondents reported being familiar with people using these types of services to help address other health related issues, but were not aware that they could be used to help one quit smoking.

Many respondents were also unfamiliar with the term “telephone quitline,” which was both a response category in a number of questions as well as the subject of one question in particular (Q14). While respondents attempted to explain or describe a quitline to the best of their ability, many admitted that they were not sure and others outright admitted that they did not know what this was. It appeared that many had a negative or unfavorable opinion of quitlines, but this may or may not have to do with their lack of knowledge of quitlines. Some speculated that a telephone quitline was a service you could call to receive counseling, or to receive information on how to quit smoking, while others speculated that a quitline was a service that called them to check to see if they were smoking and still others were confused as to how to differentiate a quitline from a mobile phone/pda. These different understandings and descriptions of telephone quitlines are elaborated in greater detail later in this report, particularly during the discussion of question #14.

Finally three themes arose regarding the questions which asked about a hypothetical medication and respondents’ willingness to pay for this medication (see questions 16-20 in Round 1 and questions 16-17b in Round 2). First, these questions assume that respondents are ready to quit smoking. A couple of respondents mentioned during testing that they were not willing to spend money on this medication either because they are not ready to quit smoking or

because they do not intend to do so. In other words, their willingness to purchase this medication had little to do with the cost or the effectiveness of the medication, but rather their intentions regarding quitting. Second, these questions assume that respondents are interested in using a medication to help them quit smoking. At least one respondent discussed a lack of interest in taking a medication to help her quit smoking. Therefore willingness to pay for this medication had little to do with the cost of the medication or the effectiveness of the medication but rather her interest in using a medication. Finally, by using the term “willing” these questions assume that respondents can afford this medication and in the case of questions tested in Round 2, that their willingness is contingent upon the effectiveness of the medication, rather than their ability to pay for the medication. The majority of respondents in both rounds of testing discussed how their willingness to purchase this medication was directly tied to their ability to afford it. The remainder of this report will detail these findings and others through a question by question review of the findings.

Question by Question Review

1. Which, if any, of the following services or products, do you think help smokers quit?
 (“X” all that apply)
 - Stop smoking clinic or class
 - Telephone quitline
 - One-on-one counseling from a health care provider
 - Self-help materials, books or videos
 - Nicotine patch, gum, lozenge, inhaler
 - Prescription medications (Zyban/Wellbutrin/bupropion, Chantix)
 - Acupuncture
 - Hypnosis
 - Internet quit site
 - Mobile phone/PDA
 - Other
 - None

Several themes emerged from the testing of this question. First, respondents varied in whom they considered when answering, with some respondents reporting for their self, other respondents reporting for other smokers, and still others reporting for both themselves and others. Second, respondents gave various reasons for why they selected the items that they did, with some respondents selecting only those items that they or someone they know have used and found effective, and others selecting only those items that they thought might help themselves or others quit smoking but they have not necessarily tried themselves or know others who have tried them. Finally, several response errors and comprehension problems were found, which were directly related to the response options themselves. Some respondents did not appear to understand that they could select more than one response when answering. Additionally, some respondents thought some of the response options listed were redundant, and ultimately this led to response error. Finally, there were several response options with which respondents were

unfamiliar. These patterns of interpretation and response error are described in more detail below.

As mentioned above, there was a lot of variability in the ways in which respondents answered this question, with some respondents answering for themselves only, some answering for specific others, some answering for smokers in general, and still others answering for their self and specific others. In fact, the ambiguity of the term “smokers” was problematic for one respondent, who upon initially reading the question asked, “Am I answering this question based on myself or am I answering it based on smokers as a whole?”

Respondents also selected products or services for a number of reasons. Some respondents selected products or services that they themselves had used and found helpful, while others selected products or services they were currently using and finding helpful, while still others selected products or services their friends and family members had used and found helpful, or products or services that they thought might help themselves and/or others quit smoking but they themselves have not used nor do they know others who have used them. This ambiguity in the question made it difficult for at least one respondent. Upon initially reading this question this respondent asked, “What about if you think something would work but you haven’t actually tried it?” Later during probing he added,

“You could possibly think that a service or medication could help without actually using it. Like I said in my own case I think the prescription medications would probably help although I haven’t used them myself so and it’s not at all clear whether or not that’s the question or not.”

This respondent ultimately selected “prescription medications” as one of his responses.

Because respondents answered for themselves, others, and some for self and others, and because respondents selected responses for a variety of reasons, a number of different response pathways are possible (see Figure 1 below). This finding is only problematic if data users are interested in particular pathways more so than others.

Figure 1: Response Pathways

Reasons Given	Subject (for whom they answered)		
	Self	Others	Self & Others
Self used			
Self currently using			
Others used			
Self/others never used			

For the most part respondents selected a wide variety of response options and most respondents adhered to the instructions that indicated they could mark all that apply. Two respondents selected the “other” category and one reported that she was thinking of TV commercials about how smoking affects your health, and the other indicated that she was thinking of prayer. However, there was some indication of response error occurring.

First, despite being instructed to select more than one response, several respondents only selected one response. Moreover, during probing these same respondents often discussed multiple items that they thought might be helpful in quitting smoking. Therefore there is some

concern that respondents were not noticing the instructions to mark all that apply. This was known to be the case for at least one respondent who asked “Can you pick more than one?” while filling out the survey. The interviewer instructed her to fill it out the questionnaire how she would if she were taking the survey on her own. This respondent ended up selecting a single item that she felt would *best* help people quit smoking.

Some respondents perceived particular items on the response list as redundant. These respondents believed that if an individual was using one of these services/products they would likely be using another service/product listed simultaneously. For example, one respondent felt that “self help materials” and a “stop smoking clinic or class” would both help smokers quit. However, he only selected “self help materials”. When probed on why he responded this way this respondent indicated that when he has attended stop smoking classes in the past, he received self-help materials from those classes, and therefore he felt that these two items go hand in hand and felt that selecting both of these items would seem redundant to him. Similarly, another respondent thought that a “nicotine patch, gum, lozenge, or inhaler” and receiving “one-on-one counseling from a health care provider” would both be helpful. However, she only selected “one-on-one counseling from a health care provider”. She believed if she received one-on-one counseling from her health care provider that they would advise her to use a lozenge or gum, and therefore selecting both items would seem redundant. Finally, one respondent, who answered “prescription medications” (among other items), believed that the patch would fall under this category, and subsequently did not select the item “Nicotine patch, gum, lozenge, inhaler,” despite thinking these products could help smokers quit.

Respondents were also unfamiliar with several of the items listed in the response options. First, several respondents reported that they did not understand how a “mobile phone/PDA” could help someone quit smoking. Most of these respondents did not know or could not surmise how using a mobile phone/PDA could help smokers quit. One respondent speculated that using a mobile phone/PDA would be the equivalent of using a telephone quitline; that is, a phone number someone could call to get advice on quitting smoking. Another respondent also mentioned that he found the mobile phone/PDA option to be odd. He thought this item referred to calling family or friends for support, which he didn’t think would be helpful.

“I wouldn’t want to be sitting at my desk and call my coworker who is probably two floors down and say ‘I need a cigarette right now’ and their response is going to be ‘well what do you want me to do about it?’ ...you might not have that moral support... especially if they’re going through the same stressful problems you’re going through. You’re not really going to have that much support.”

A few respondents also reported that they had never heard of a “telephone quitline” to help you quit smoking. One woman equated it to “hotlines” for rape victims and runaways, and for that reason, she reported being “shocked” to see it on a list of stop smoking products and services.

Finally, the term “hypnosis” was also ambiguous to one respondent. This respondent asked during probing if hypnosis was the same as being hypnotized. Although he thought being hypnotized may help smokers quit, he did not select this response as he was unsure of what the term meant.

In summary there are a number of ambiguities in this question that must be addressed in order to clarify the question intent and improve validity of subsequent data. In particular the term “smokers” is ambiguous. Sponsors should make it explicitly clear who they are referring to when they use the term “smokers” in this question. Second, sponsors should make the mark all that apply instruction more visible. Third, description should be added to the response options that are ambiguous or unknown to respondents.

2. Stop smoking products with nicotine are....? (“X” ONE)
- More harmful than cigarettes
 - Less harmful than cigarettes
 - As harmful as cigarettes
 - Don’t know

Respondents considered a variety of stop smoking products with nicotine when answering this question, including the patch, gum (such as Nicorette) and lozenges. For the most part, respondents had no difficulty selecting a response and could articulate why they selected the response that they did. However, a couple of respondents did have difficulty choosing a response.

The vast majority of respondents chose “don’t know” when answering. When asked why they chose this response the main reason given was that these respondents had no means with which to assess whether these products were harmful. However, respondents varied in their perceptions of the necessary criteria needed to make this assessment. For example, one respondent felt that because he was not a medical doctor or a scientist he could not assess how harmful these products are, whereas another respondent felt because he himself has never used these products, he did not know what the effects (harmful or not) would be.

Two respondents believed these products were *as harmful as* cigarettes. These respondents’ concern over the harmfulness of these products appeared to stem from their perception that nicotine is one of the harmful ingredients in cigarettes. For example, one respondent believed that the nicotine in cigarettes was the most harmful ingredient and therefore any product that contained nicotine must be harmful. This respondent explained: “The products contain nicotine and nicotine is the primary ingredient in cigarettes that is harmful to your health.” Another respondent was concerned that by using products with nicotine in them, he would simply be trading one addiction for another, and therefore he felt that these products would be just as harmful as smoking cigarettes.

Conversely, respondents, who felt that these products *were less harmful* than cigarettes, believed that there were other products in cigarettes more harmful than nicotine, for instance “tar” and “carbon monoxide”. These respondents believed that the stop smoking nicotine products were effective in decreasing cravings but without the harmful effect of other byproducts in cigarettes. As one respondent stated, “When we have nicotine products in our bodies it causes less cravings and less problems to lungs. There’s a lot of stuff in cigarettes other than nicotine that can be harmful.”

Finally, one respondent, who felt that stop smoking products with nicotine *were more harmful* than cigarettes, perceived these products (but not cigarettes) to contain “manmade chemicals” that could be harmful to your health.

There were, however, a few respondents who had difficulty selecting a response and changed their answer several times during the administration and probing of the question. First,

one respondent initially answered “more harmful than cigarettes,” however upon hearing the question a second time during probing he switched his answer to “as harmful,” stating, “I should have put as harmful as cigarettes because nicotine – that’s the killer.” This respondent then went on to discuss how any product that contained nicotine, whether it be cigarettes or stop smoking products, are harmful to your body. However, he could not make a distinction between the degree to which it was harmful in comparison to cigarettes. “It’s basically harmful period to me. Nicotine is part of cigarettes. Basically it is- all of it run together to me, more, less, as, and basically it’s harmful.” However, when probed on specific types of stop smoking products, such as the patch, he felt that they were less harmful than cigarettes:

“The patch is less harmful because it’s helping you and you’re not inhaling no smoke through your lungs. But you can’t use a patch forever. It’s just a substitute... it’s harmful in a way because it’s still nicotine going into your body but it’s helping you to stop smoking... so I would say it’s harmful but it’s helpful.”

Similarly, another respondent answered “don’t know” to this question and when probed on her response she confirmed that she didn’t know how harmful these products were. However, when the interviewer probed on specific types of products, such as Nicorette, this respondent then changed her response to “less harmful.” When asked why she felt this product was less harmful than cigarettes she replied, “Because if they’re trying to curb your desire for cigarettes why would they give you something that is more dangerous?”

These respondents appear to be focusing on the term nicotine in this question and the effects of that chemical, rather than considering stop smoking products (that contain nicotine) when answering. These respondents wanted to express their beliefs that nicotine is harmful, period, without actually making a comparison between non-smoking products that contain nicotine and cigarettes. It may be necessary to give examples of stop smoking products in this question to ground respondents’ interpretation of this question.

3. What types of assistance did you utilize the last time when you tried to quit smoking? (“X” all that apply)
- Stop smoking clinic or class
 - Telephone quitline
 - One-on-one counseling from a health care provider
 - Self-help materials, books or videos
 - Nicotine patch, gum, lozenge, inhaler
 - Prescription medications (Zyban/Wellbutrin/bupropion, Chantix)
 - Acupuncture
 - Hypnosis
 - Internet quit site
 - Mobile phone/PDA
 - Other
 - None

Only six respondents appeared to answer this question correctly with no response error. These respondents reported on the type(s) of assistance they used the last time they attempted to

quit smoking. However, a couple of different issues led to response error among respondents. First, respondents did not uniformly report on the “last time” they tried to quit smoking. Second, some respondents omitted types of assistance they had used during their last quit attempts when answering. While in some of these cases this occurred because of ambiguity in the response options (i.e. respondents did not know how to map the types of assistance they had used onto the options provided), in other cases it was not always clear why respondents did not report the use of these services. Finally, a few respondents reported on behaviors they engaged in the last time they tried to quit, such as quitting “cold turkey.” These types of quitting behaviors were targeted in question #4. These findings are described below.

Almost all of the respondents we interviewed had attempted to quit smoking more than once, and although this question asked about the “last time” respondents tried to quit smoking, respondents referenced various prior quit attempts when selecting their response. In fact, only six respondents appeared to answer this question based solely on the types of assistance that they had used in their last quit attempt. Additionally, one of these respondents initially answered based on the types of assistance he had used in *all* previous quit attempts before realizing that the question had actually asked about the “last time” he tried to quit smoking. Upon realization of this, he changed his response to accurately reflect the last time he tried to quit smoking. Other respondents selected types of assistance that they had used across multiple prior quit attempts. For example, one respondent initially answered that he used “nicotine patch, lozenge, inhaler” and “acupuncture” during his last quit attempt. However, during probing he revealed that he has tried to quit smoking a total of six times. During his last quit attempt he used Wellbutrin only, and he had used the patch during his second quit attempt, and acupuncture during his third quit attempt. However, it was not clear why this respondent didn’t select “prescription medications” when answering this question.

It was also not clear if respondents who were currently trying to quit smoking should consider their current quit attempt as the “last time” they tried to quit or if they should consider the quit attempt that preceded their current attempt. One respondent, who was currently quitting, ended up answering based on the quit attempt that preceded his current attempt, while another respondent answered based on her current quit attempt.

Furthermore, some respondents who did report on the last time they attempted to quit smoking did not include all of the types of assistance they had utilized. Two respondents omitted types of assistance they had used in their last quit attempt, but it was not clear why these respondents omitted these things. Both respondents reported during probing that they had used one-on-one counseling and the patch, though one respondent only reported using the patch and the other respondent only reported using one on-one-counseling.

One reason that respondents did have difficulty reporting the types of assistance they had used during their last quit attempt was because they could not adequately map their response onto the options provided. First, two respondents discussed how they had used exercise to help them quit smoking, but they did not report this on the survey. It was not clear if this kind of activity should fall under “other,” or if it was even desired to capture this type of information in this question.

For other respondents it was not clear if they had placed their response under the appropriate category. First, a couple of respondents wanted to report here that they had not used any types of assistance per se, but rather had quit smoking on their own accord. However there was no appropriate category upon which to map this response. The category, according to some respondents, that most closely reflected this experience was “self help materials, books or videos.” One of these respondents vacillated between this response option and “none” during the

administration of the question, but ultimately ended up selecting “none,” stating, “I put none but when it said self help, I did some on my own but I didn’t use any materials or books, so that’s why I didn’t know if I should check that. I wasn’t sure.” This respondent gradually stopped smoking and attempted to break up her smoking routine, but she never used any kind of self help materials, such as books or videos. The other respondent did select “self help materials, books or videos” because he interpreted this category to mean doing the work oneself, and without seeking assistance from others. His strategies for quitting smoking were to decrease the amount of cigarettes he smoked each day and drink orange juice, as he believed orange juice removed nicotine from one’s body and would reduce his cravings. Finally, one respondent reported that she quit “cold turkey” and selected the response option “other” to indicate this. This appeared to be a smoking behavior that should have been captured in question four, and she did accurately report this in question four.

In order to address the issue of respondents not adhering to the term “last time” in this question, the term either needs clarification or more emphasis needs to be placed on this reference point. As will be described, respondents had less difficulty adhering to this term in question #4. This may be due to the fact that the term was placed first in the question structure instead of in the middle of the question text as in question 3. It may be that this reference point is being overlooked by respondents due to its location. However, as mentioned earlier in the report, respondents often had difficulty discussing discrete quit attempts due to the fluid nature of the quitting process. Therefore, it may not be possible for respondents to accurately recall specific prior quit attempts, even if it was the most recent attempt. Finally, sponsors should consider the intent of this question and the types of products respondents discussed during probing and then determine if these are the types of products/services they wish to capture with this question. If not, changes should be made to clarify the intent.

4. The last time you tried to quit smoking what did you do? (“X” all that apply)
 - Gradually reduced the number of cigarettes smoked
 - Switched to “light cigarettes”
 - Switched to smokeless tobacco/snuff
 - Got help from family/friends
 - Other
 - None

More respondents adhered to the phrase “the last time” in this question than in the previous question. This may be due to the placement of the term “the last time” at the start of the sentence rather than at the end. However, this is speculative and more research would be needed to come to this conclusion. Overall, the majority of respondents appeared to provide valid responses to this question. That is, they reported on their last quit attempt, and the response options they selected matched their narrative regarding their behaviors during their last quit attempt. However, several cases of response error were also found. As in the previous question, a few respondents reported on their current quit attempt, rather than their last quit attempt, and one respondent reported on multiple prior quit attempts. Several respondents wanted to report that they quit “cold turkey” in this question; however these respondents were not consistent in how they went about mapping this onto the response options provided. These cases of response error are discussed below.

First, as in the previous question, a few respondents reported on their current quit attempts in this question. It is not clear if current quit attempts should be counted as the “last time” respondents attempted to quit. However, this ambiguity is problematic as the types of behaviors one is currently engaging in can be different from behaviors they engaged in during their last quit attempt. This was the case for one respondent, who used different strategies across different quit attempts. In the previous question (Q3) this respondent reported on the second and third time he attempted to quit smoking out of a total six quit attempts. However, in this question he reported on his current quit attempt. During his current quit attempt the only strategy he has employed is to gradually reduce the number of cigarettes he smoked, and subsequently he selected this response. However, in his last quit attempt, the only strategy he employed was using Wellbutrin. If this respondent should have reported on his last quit attempt, rather than his first, his response should be “none”. Finally, a couple of respondents answered this question based on strategies they used across various prior quit attempts. One of these respondents selected the response options “gradually reduced the number of cigarettes smoked” and “switched to smokeless tobacco.” But the last time he actually used smokeless tobacco (as a strategy for quitting smoking) was over two years ago. Since that time, he has tried to quit smoking two times (including his current attempt), and during both these times the only behavior he engaged in was gradually reducing the amount of cigarettes he smoked. The other respondent shifted which quit attempt he considered during the question administration and probing. She initially answered “other,” meaning she quit “cold turkey” but later during probing stated that she switched to light cigarettes. When probed on the inconsistency in her responses it was revealed that she was considering a particular prior quit attempt when initially answering this question, and then a different prior quit attempt during probing. The interviewer probed to see which of these quit attempts occurred most recently. The respondent disclosed that her most recent quit attempt occurred nine months prior to the interview and during that time, she switched to lighter cigarettes. However, this was inconsistent with her narrative from the previous question in which she disclosed that three months prior to the interview she had quit “cold turkey.”

Finally, as mentioned above, several respondents wanted to report for this question that they had quit “cold turkey” but it was not clear how to do so. Some respondents ended up reporting quitting “cold turkey” under “other”, while a few others did not report this behavior and selected “none” instead. One of the respondents who selected “none” later revealed during probing that he should have selected “other.” Sponsors should consider adding a response option for respondents to indicate that they stopped smoking altogether or quit “cold turkey.” Additionally, sponsors should clarify what is meant by “the last time” in the question text. This should help resolve some of the errors found.

5. How many times have you tried to quit smoking?

Two themes emerged from the evaluation of this question. First, respondents employed a number of calculation strategies when answering this question, including counting, estimating, and providing “random” numbers. Second, respondents also varied in terms of what they considered to be a quit attempt. This could range from anywhere between simply thinking about quitting smoking (without actually attempting to quit) to making a concerted effort to quit smoking. These findings are discussed below.

Some respondents could not easily recall and count up the times they have tried to quit smoking in their lifetime. For other respondents, it was easy to recall how many times they tried to quit smoking as each quit attempt was a memorable experience. For example, one woman was able to count up the number of times she attempted to quit smoking as she could recall all of the different strategies that she has used to quit smoking over the years. For example, the first time she tried to quit she went to a stop smoking clinic and was given the patch. She was able to stop smoking for the duration of the patch. The second time, she used Nicorette gum and was able to stop smoking for nine months. The third (and last) time she tried to quit smoking she used Nicorette gum and lozenges and she was able to quit for four months. For another woman, her quit attempts were associated with her pregnancies. She is also currently attempting to quit. Therefore she reported “seven” times, which included her six pregnancies and her current quit attempt.

Other respondents could not recall discrete times when they attempted to quit smoking. Instead these respondents provided estimates. These estimates included both a single number (i.e. 8, 10, 150) and ranges (i.e. 3-4 times, 20-40 times, 20 or more). Respondents’ estimates appeared to be both strategic and random. For example, like respondents who provided a count, respondents who estimated could also link their quit attempts to specific events in their life, but they were unable to provide an exact count. Other respondents provided seemingly random estimates. For example, one respondent, who answered “150”, explained that “150” was “just the number that jumps out at him.” Similarly, another respondent, who answered “12,” explained that she selected this number because “I just like the number 12. I just always do things 12 or 13 times. I think I’ve taken my husband back 12 or 13 times.”

Respondents also held different conceptualizations of quit attempts. Some respondents only considered times when they stopped smoking completely as prior quit attempts, while others included times when they decreased the amount of cigarettes they smoked, and/or times when they used products and services in an attempt to quit smoking. A couple of respondents only considered times when they put forth a concerted effort to quit smoking as a quit attempt. For example, one man did not include in his response times when he stopped smoking because of a cold or flu. To him, quit attempts were times when he felt determined to quit and made a conscious effort to stop smoking. Finally, one respondent considered any time he had thought about quitting smoking, even if no action was taken, as a quit attempt. Subsequently this respondent reported that he had attempted to quit 150 times in the past.

Once again, because of the fluid nature of the quitting process, it may not be possible for respondents to provide an accurate count of the number of times they have attempted to quit smoking. It may be more appropriate to ask respondents to select from a range, rather than an exact number, and rather than allowing respondents to give an open ended response. This would also reduce burden when it comes to coding the data. At the very least, however, the sponsor and data users should acknowledge that these numbers are not likely to be accurate, but rather, are estimates of the number of times respondents have attempted to quit smoking.

6. What best describes your intentions regarding quitting smoking? Would you say you... (“X” one)
- Will quit in the next 30 days
 - Will quit in the next 6 months
 - Will quit sometime but not in the next 6 months
 - I do not plan to quit

Almost half of the respondents we interviewed reported that they will quit smoking in the next six months, followed by “will quit sometime but not in the next 6 months,” and “will quit in the next 30 days.” Only one respondent reported that they he did not plan to quit. Two additional patterns of response formation were found across all responses (with the exception of the respondent who had no plans to quit smoking). First, some respondents based their response on life events. For example, one respondent, who answered “will quit in the next 30 days” reported that he hopes to get a new job in the next month, which will be less stressful, thus making it easier for him to quit smoking. Similarly, another respondent, who answered “will quit but not in the next 6 months” stated that he was waiting until after the holidays to quit smoking because he didn’t think it would be feasible to attempt quitting during that time period.² Other respondents were hopeful of quitting but also doubtful that they could be successful.

“I have tried so many times and I haven’t quit yet. But I do want to quit. I don’t know if it will be in the next 6 months. It may be or may not be.”

This respondent did think she would try to quit in the next 6 months but is not currently trying to quit. Although the majority of respondents who reported that they were hopeful of quitting answered “will quit sometime but not in the next 6 months,” respondents who answered “will quit in the next 30 days” and “will quit in the next 6 months” also gave this reasoning.

One overall finding from the testing of this question was that no matter which response respondents selected, they all appeared to be considering when they *hoped* to quit smoking but not their intentions to quit. In other words, most respondents had no plan to quit smoking. In fact, among the respondents we probed, only two respondents reported that they are currently trying to quit smoking. Both respondents had decreased the daily amount of cigarettes they smoke in an attempt to quit. One respondent answered that he “will quit in the next 6 months” and the other respondent answered that he “will quit sometime but not in the next 6 months”. Both respondents reported having a desire to quit but were doubtful that they could achieve this goal, as they both have had many unsuccessful attempts in the past. For example, when asked why he doesn’t think this quit attempt will be successful one respondent stated, “I hope I’ll be able to quit smoking in the next six months but it’s something I’ve been unable to do for a long, long time. I have been cutting back...I don’t have any plan. No goals set.” In fact, this was a common theme across respondents. No matter which option respondents selected (with the exception of respondent who had no plans to quit), respondents were all hopeful they would quit sometime in the future but they did not necessarily have a plan in place to do so.

7. What **medical information** could your health care provider give you that would increase your motivation to quit? (“X” all that apply)

Information on...

- How smoking is affecting your overall health
- How smoking is affecting your current health problems
- How smoking around others affects their health
- Your family history of smoking-related illnesses
- Other
- I do not need medical information about smoking

² This respondent was interviewed in September

- Information from my provider won't increase my motivation to quit

The majority of the respondents appeared to comprehend this question and provided valid responses. That is, they considered what types of information they could receive from their doctors, if any, to help motivate them to quit smoking. The most common response selected was “how smoking is affecting your overall health,” followed by “how smoking is affecting your current health problems.” Respondents who selected these items were interested in learning more from their doctors regarding how smoking affects their health, although many mentioned that they were already aware of how smoking can affect their health. Conversely, respondents did not select items that they did not feel would motivate them to quit smoking, although they did believe that they may help others. For example, several respondents explained that they chose not to select some of the response categories not because they thought those particular pieces of medical information would fail to motivate them, but rather, because the options were not relevant or applicable to their current situations. For example, two respondents felt that the response option “how smoking around others affects their health” was not applicable, as they do not smoke around others. One respondent commented that he does not have a family history of smoking related illnesses and therefore did not think the response option “family history of smoking-related illnesses” applied to him.

However, some respondents, who also reported that they already knew how smoking related to their health, opted to select “I do not need medical information about smoking” or “information from my provider won't increase my motivation to quit.” For these respondents, no additional information could help motivate them to quit. Often these respondents had in the past tried many different products or services to help them quit smoking but had no success. As one respondent put it, “I have all the information you could have on stop smoking and all the things you could use or get to help you stop.... I just need help from the man upstairs.”

Along the same lines, one respondent selected “how smoking is affecting your overall health,” “how smoking is affecting your current health problems,” and “information from my provider won't increase my motivation to quit.” Although the interviewer did not have time to probe on this question, and this is the only case where this occurred, it is consistent with other respondents' narratives where they discussed how information from their doctors would be helpful and has been helpful in the past, but they don't feel it will motivate them to quit. These respondents already know the negative consequences of smoking and feel that it's up to them to make a behavioral change. This is an assumption built into this question that comes out in more detail in the evaluation of the next question, which is similar in intent.

There were a couple of cases of response error that resulted from misinterpretations of the question intent. For example, rather than answering the question based on what medical information her health care provider could give her that would increase her motivation to quit, one respondent answered based on what she believed her current health care provider *would* give her in order to motivate her to quit. This information was not necessarily what could potentially motivate her to quit. Additionally, while the majority of respondents understood this question as asking about what would motivate *them* to quit, one respondent considered what would motivate *any* smoker to quit. In other words, she extended the question to include not just herself but any and all smokers. This was problematic as she selected items that she did not feel would necessarily motivate her to quit smoking, but she believed may help motivate others to quit.

While one respondent did interpret the question correctly, he did not select all the items that his health care provider could give him that would motivate him to quit smoking. This respondent selected only one item but then during probing of the question discussed multiple

items that would help motivate him to quit smoking. When asked why he didn't select all of the items that he discussed, he attributed it to "rushing" through the questionnaire.

Finally, most respondents who were probed on who they considered when the question asked about their "health care provider" indicated that they thought about their primary care physician or some other physician who they had seen. The only exception to this was one respondent who thought of his mother, a former nurse. Another respondent considered the kinds of information his primary care physician could give him to motivate him to quit smoking, but he noted that he has, in the past, received medical information on quitting smoking from his "shrink." Despite this, he did not consider his "shrink" when answering.

8. What **information on quitting** could your health care provider give you that would increase your motivation to quit? ("X" all that apply)

Information on...

- How the quitting process works (it takes several tries to quit)
- How he/she can help you develop a plan for quitting
- How telephone quitlines work
- How stop smoking clinics/classes work
- How quitting medications work
- Services that are covered by my health insurance
- How to get support for quitting from your family/friends
- How to deal with stress when quitting
- Other
- I do not need information about quitting
- Information from my provider won't increase my motivation to quit

Several issues were found with this question during testing. First, the question makes the assumption that respondents are ready to quit. Secondly, some respondents had trouble comprehending the hypothetical nature of this question, and instead selected response categories that described the information that they have already received from their doctors, regardless of whether or not it could or has increased their motivation to quit. While most respondents interpreted "health care provider" to mean their primary care physician when answering, one woman considered her health insurance company. Finally, one respondent thought this question and the previous question were redundant as he interpreted them to be asking about the same information. These findings are described below.

Two respondents found this question somewhat problematic because it assumes that they are motivated to quit smoking, but at the time of the interview, they explained that they were not. One of these respondents described how his doctor frequently brings up his smoking habit and how he needs to quit, but, as he explained, "I always cut her off because I'm not fully ready to quit." He noted that he would find the items that he selected ("how the quitting process works," "how quitting medications work, and how to deal with stress when quitting) motivational only if he got to the point where he is ready to quit.

As was the case with question #7, another respondent failed to read the question as hypothetical. Instead, he answered the question based on the information his physician has already provided him with, rather than the information that could motivate him to quit in the future.

Though respondents were not probed as extensively as to whom they were thinking of their “health care practitioner” in this question, it is noteworthy that one respondent, who considered her primary care physician in the previous question, explained that here she considered “health care provider” to be referring to her insurance company in this question.

Finally, one respondent found this question to be repetitive, as he viewed this question as asking about the same thing as question 7. While filling out the questionnaire this respondent stopped and stated “7 and 8 seems the same... that may be confusing to some people. It confused me!” Later during probing he reiterated how these questions seemed very similar to him.

“Medical info and information on quitting they are still quite similar when I think about it, especially if it’s coming from the same person. They’re coming from the same person correct? It’s very redundant.”

Because he had difficulty discerning the difference between these two questions, they seemed very redundant to him.

9. What **services** would you want from your health care provider to help you quit? (“X” all that apply)
- Help developing a plan for quitting
 - Prescription for quitting medication
 - Self help materials, books, or videos
 - Referral to stop smoking clinic/class/specialist
 - Referral to a telephone quitline
 - Information on how to quit on your own
 - Information for family/friends to help you quit
 - Other
 - I would not be interested in services from my provider

Most respondents interpreted this question as asking about the types of stop smoking services they would be interested in receiving from their health care provider. However, some issues did arise. First, while the majority of respondents seemed to understand the response categories, several respondents were unfamiliar with two of the response categories. Second, while the majority of respondents tended to consider their primary care physician when answering this question, one respondent considered her health insurance company.

Overall the majority of respondents were familiar with the types of services listed in the response options and could articulate why they would be interested in receiving these services from their health care providers. However, several respondents noted that they were unfamiliar with particular services listed in the response options. As with other questions, some respondents reported being unfamiliar with a telephone quitline, or held misconceptions of what this type of service entailed. For example, one woman thought a telephone quitline was “like a rape hotline” but did not understand totally how it would help someone quit smoking. Another respondent thought a telephone quitline was similar to having an Alcoholics Anonymous counselor: “It would be someone whom I could call if I ever get a craving to smoke, and just talk to the person, so the person can help get my attention on something else.” When asked to provide a description of a telephone quitline for other questions on this questionnaire, respondents provided very similar accounts (see questions 1 and 14).

One respondent marked that he would be interested in prescription medication to help facilitate quitting and explained that until filling out this survey he was unaware that such medications existed. He assumed that all stop smoking products were over the counter. This highlights the fact that some respondents do not necessarily have familiarity with the response categories, and though this respondent selected one for this reason, others may avoid them because of their lack of knowledge. In fact, two respondents expressed interest in services that they did not mark when initially filling out the survey. However, the reason for these cases of response error is unclear.

Of the respondents who were probed on the term “health care provider” all but one respondent considered their primary care physician. Instead of considering her physician when answering, one respondent considered her health insurance company. This is the same woman who considered her “health care provider” to be synonymous with her health insurance company in question 8. However, elsewhere in the questionnaire, specifically Q7, she thought the term “health care provider” was synonymous with primary care physician. It was not clear why she interpreted this term differently across questions.

Finally, rather than view this as a hypothetical question asking what potential services one would want from his or her health provider, one respondent answered the question based instead on the services that have already been provided by her health care provider to help her quit.

10. How likely are you to seek health care provider’s advice in your next quit attempt? (5= Most likely, 1=least likely)

1 2 3 4 5

For respondents who selected answers on the extreme ends of the scale (either 1 or 5), their descriptions of what these numbers conveyed were straightforward for the most part. For those who selected “1,” least likely, they made it clear that they were not interested in receiving advice, either because they had all the information that they needed, because they had previously received advice, or because they were not interested in quitting smoking. One respondent, however, who answered 1 to the question had a less straightforward interpretation of his answer and said he “might” bring up smoking with his health care provider but was not “real, real serious” about it. At the other end of the spectrum, a respondent who answered 5 explained that she did so because she has found her doctor’s advice helpful in the past. She said that being able to call and speak with a “counselor” helps distract her and keep her mind off smoking. Another respondent who also selected “5” said he did so because, simply, “I need help to quit smoking.”

However, for those who provided what several respondents described as answers “in the middle” (2, 3, and 4), their explanations of what the numbers conveyed was not always so straightforward. For example, one respondent, who answered “3”, explained that she is hoping that she will get help but she is skeptical of the help she might receive. The selection of “3” was less about her desire or willingness to seek out the advice of a health care provider and more about how she will use or apply that advice once it is received. Similarly, another respondent answered “3” and explained that her answer was “in the middle” because it is likely that she will seek the advice of her health care provider again. However, due to her negative experience the last time she sought her health care provider’s advice, she is hesitant to do so again. And for one respondent his answer of “3” meant that he would “kind of listen and kind of not listen.” He

makes it clear with this statement that his middle answer reflects a skepticism of his health care provider's advice to help him quit but does not necessarily indicate that he is "in the middle" about asking for the advice in the first place.

However, some respondents provided middle answers but nonetheless described a high commitment to seeking the advice of their health care provider. One respondent who answered "3" but described herself as highly motivated to quit smoking was asked why she selected "3" over "4" or "5." She had no compelling explanation as to why. Her comments suggested that an answer of 4 or 5 might more accurately reflect her intentions. And for another respondent, "3" meant "likely"

Finally, two respondents thought "health care provider" referred to someone or something other than their primary care physicians. For one woman, health care provider referred to her stop smoking clinic/organization. For another respondent, health care provider referred to her insurance company. This same respondent had expressed interest in services from her provider in the previous question but answered "1" to this question. She explained that while she is interested in services, she is not at all interested in advice. She explained that her health care provider "might prescribe medication and I do not want that."

11. Have you ever asked a health care provider for help in quitting smoking?
- Yes
 - No

Among the respondents who answered "yes" to this question and were probed on their interpretation of the question, all appeared to answer this question accurately. That is, they described incidents where they did appear to be, in fact, asking a health care provider for help to quit smoking. Some respondents, however, who answered "no" to the question described incidents that were somewhat ambiguous. For example, one woman answered "no" although she had a conversation with her health care provider about quitting and has received help to do so, but she did not initiate this conversation. In other words, although she has received help from a health care provider, she has not specifically *asked* for that help. For this reason, she thought that "no" was the most appropriate answer. This suggests that the wording "have you ever *asked*" may deter some respondents who have had discussions with the health care provider about quitting smoking from giving an affirmative response to this question. However, this is only problematic if the sponsor wishes to truly capture only those respondents who have initiated conversations with their health care provider regarding quitting smoking.

Some respondents found the question difficult to answer, mainly because it assumes that they want to quit smoking when in reality these respondents do not. One respondent explained that he has never been at the point where he really wants to quit, and though he realized he needs to quit, at the time of the interview he could not "honestly say" that he is going to quit.

For nearly all of the respondents who were asked who they thought of as their "health care provider" with respect to this question, they were considering their primary care physician or another physician who may or may not be their primary care doctor. One respondent was thinking specifically of his mother, a former nurse, but he had also asked his primary care doctor for help. Another respondent was thinking of a counselor at a university and another was thinking more generally about a "stop smoking clinic."

12. Do you think a health care provider should help you quit smoking?
- Yes
 - No

One significant problem with this question is that, like other questions, it makes the assumption that respondents want to quit smoking. For instance, one respondent even wrote next to his “yes” answer the words “if possible.” He pointed out that he is not at the point where he wants help from a health care provider or even wants to quit. Another respondent, who also answered “yes,” similarly explained that a health care provider should be available if needed, but she is not interested in their help. Finally, one respondent did not initially provide an answer, but said if pressed she would have answered no. She explained that the decision to quit smoking is ultimately up to the individual smoker. For this respondent and several other respondents, this question ultimately needed a caveat, specifically, that a health care provider should help you quit smoking, *if you want help*.

One respondent incorrectly answered “yes” but explained later that she should have answered no. Another respondent also appeared to answer the question incorrectly, selecting “no” as her answer but indicating elsewhere in the instrument that she would be extremely interested in a prescription for quitting medication from her physician. It was not clear why these discrepancies in respondents’ answers were present.

Though only two respondents were probed specifically on this issue, one respondent thought that “health care provider” referred to a stop smoking clinic. In addition to this, another respondent thought that not only should her primary care physician help her quit smoking, but that all of her health care providers – her dentist, gynecologist, etc – should assist with this. She explained that smoking affects the entire body, and that is why it concerns anyone who provides her with medical care.

13. If the following services/treatments were free, which would you use in your next quit attempt? (“X” all that apply)
- Stop smoking clinic or class
 - Telephone quitline
 - One-on-one counseling from a health care provider
 - Self-help materials, books or videos
 - Nicotine patch, gum, lozenge, inhaler
 - Prescription medications (Zyban/Wellbutrin/bupropion, Chantix)
 - Acupuncture
 - Hypnosis
 - Internet quit site
 - Mobile phone/PDA
 - Other
 - I would not use any services/treatments

The majority of respondents appeared to provide valid responses to this question. That is, most respondents seemed to note the first part of the question that asks them to specifically consider the following services and treatments *if* they were free and select the services/treatments they were interested in using during their next quit attempt. However, some respondents

appeared to have some difficulty with several of the response categories. As in question #1, a number of respondents were unsure what the “mobile phone/PDA” option was, and several were unfamiliar with the terms acupuncture and hypnosis. There were also several instances of response error.

In general, it appeared that respondents took into account the clause “if the following services/treatments were free”, and that they factored this into their responses. For example, one respondent said that he would “give it a try” in response to the items he selected because he is “not losing or gaining anything.” One respondent selected a number of response categories and explained that prohibitive cost has been the primary reason for not using and/or trying these services and therapies in the past. Similarly, another respondent remarked that most people would check all of these items if they were free.

Some respondents, however, explained that cost was not a factor for them. For example, a couple of respondents noted that other than the items they selected, they would not want any of the others, even if they were free. Though cost may not be a factor in their decision making, they were aware that it was a component of the question, which provides further evidence that respondents are noting the specific wording used in this question.

A number of respondents expressed confusion over how a mobile phone/pda would help them quit smoking. Several respondents commented that they had no idea how this item would help them quit smoking, while others made speculations. For example, one respondent thought it might entail someone calling him up and checking to see if he was smoking. The person who called would be the person who gave him the free equipment in the first place. Another respondent thought that the mobile phone/pda was referring to a “24 hour hot line.” Similarly, another respondent explained a mobile phone/pda in the following way: “that would be something I would use if I was having a hard time and wanting a cigarette. I could call someone on the phone and talk myself through it.” She distinguished a mobile phone/pda from a telephone quitline because the former does not “specify the function it serves.” She thought the mobile phone might be used to call the quitline.

Though not as pressing a problem as the mobile phone/pda option was, three respondents also stated that they were unfamiliar with the terms acupuncture and hypnosis, either more generally or for quitting smoking specifically. Two of these respondents subsequently did not select these items, while one respondent picked acupuncture specifically because her unfamiliarity has made her curious.

Some respondents also expressed interest in other services/treatments that were not listed in the response options provided. First, two respondents expressed interest in vaporized or electric cigarettes. One respondent thought this could be included as “other,” but did not select the “other” response category when initially answering the questionnaire. Another respondent explained that his most pressing need to help him quit smoking was therapy aimed at helping him eliminate stress. He did not think this was captured by any of the available response categories.

Finally, testing also revealed other examples where respondents expressed interest in services/treatments but did not select them in this question. For example, despite one respondent’s discussion of the prohibitive cost of prescription medicines, namely Chantix, during another segment of the interview, she did not select this item when answering this question despite her interest in it. Similarly, another respondent admitted being interested in both hypnosis and acupuncture even though she did not select these answers when she first filled out the questionnaire. Finally, another respondent also did not select mobile phone/pda but said that she should have checked it. However, it is not clear why these errors occurred.

14. What services would you want from a free telephone quitline to help you quit? (“X” all that apply)

- Help developing a quit plan
- Information on quitting medications
- Self help materials, books, or videos
- Referral to stop smoking clinic/class/local specialist
- Information on how quit on your own
- Information for family/friends to help you quit
- Information on healthy eating/increasing exercise
- Unlimited calls
- Access to internet services
- Free quitting medications
- Prizes for quitting
- Other
- I would not be interested in quitline services

The most problematic component of this question was its reference to a free telephone “quitline,” since most of the respondents had never used one and were unfamiliar with this term. They did, however, attempt to explain or describe a quitline.

A number of respondents had unfavorable opinions of quitlines, despite being unfamiliar with this type of service. In fact, 8 out of the 24 individuals who responded to this question selected “I would not be interested in quitline services” as their answer. One respondent said that “the idea doesn’t sit well” with him. He imagined a quitline involving an inexperienced person or a “disgruntled smoker” telling him to stop smoking. Another respondent similarly imagined it being a waste of time, and that he would simply “hang up on them” if someone were to call. He also thought a quitline would use up his cell phone minutes, which he has in limited quantity. In sum, he said, “I don’t need anyone calling me.” Several other respondents also thought a telephone quitline would entail someone calling them. For example, one respondent discussed how he would be interested in calling up someone else for information; however he would not want anyone to call him. Another respondent, who answered that he would not be interested in a quitline, was skeptical of its potential. He asked, “if you have the urge to smoke, are you expected to call them? What can they do?” He went on to say that a person who has used one before and is familiar with it would be interested in the services a telephone quitline has to offer, which underscores the observation that this question depends upon the assumption that respondents know what a quitline is. One respondent in particular was quite skeptical of the benefits of a quitline. She indicated that she was not interested in quitline services and said, “I think that’s a ridiculous idea. I don’t see how that would help anyone quit, ever.... If you’re drunk at a bar, you’re not calling a telephone quitline.” Another respondent thought that a quitline involved someone calling her, or her calling somebody else and that she does not think this should be thought of as counseling, but rather an impersonal conversation with little benefit.

Others had a more favorable or neutral opinions of telephone quitlines, despite their lack of familiarity with this type of service. One respondent who expressed interest in receiving information from a quitline, despite being unfamiliar with this type of service, speculated that a telephone quitline was akin to a “rape hotline” where a victim of assault might call for assistance. Another respondent interpreted a telephone quitline to be synonymous with an

Alcoholics Anonymous line, where someone calls to receive help. She expressed interest in calling someone for help whenever she has a craving to smoke. Finally one respondent thought it would be a telephone line where those on the other end would give the caller a quit date and provide him or her with the procedures to use before actually quitting smoking. She thought the person on the other end of the line would likely be someone who had previously smoked.

Some respondents, however, appeared to have little idea as to what exactly a quitline was. For example, one respondent stated during probing that he would not be interested and he didn't know what a quitline was. He said he didn't think he was "the type of person" who would call a quitline, suggesting that he did have a vague sense of what it was.

One of the few persons who had used a quitline explained that she had a bad experience in the past but that she would still be interested in specific services from a quitline.

Some potential problems with some of the response categories emerged as well. Specifically, the response option, "unlimited calls," was a source of confusion for some respondents. One respondent thought that a telephone quitline described as "free" would obviously include unlimited calls. For another respondent, "unlimited calls" meant that the quitline would be open 24 hours a day. In addition to this item, another respondent marked that she was interested in "free quitting medications," but for her this referred to gum, lozenges, and patches. She was quite adamant about her opposition to using prescription medications.

If sponsors decide to keep this question they should provide a description of telephone quitline to ease comprehension.

15. What are the important factors to you in choosing the product you selected? Please, rank them (1 to 4) in order.

- Costs of the therapy
- Convenience of the therapy
- Availability (prescription or nonprescription)
- More helpful in quitting

There were several problems found during the testing of this question. First, a large portion of respondents did not adhere to the instructions to rank order these items. Instead respondents checked items that they felt were important to them, or assigned a single number (e.g. 4) to all the items. A more significant problem, however, was respondents didn't understand what "product" this question was asking about. This question makes the assumption that respondents had selected a product to help them quit smoking, and this led to confusion among several respondents. Even more troublesome though was once respondents moved passed the comprehension of the actual question, the response options introduced multiple types of products. For example, the first two items reference "therapy", whereas item number three references prescriptions. This served to further confuse respondents and at times shifted what types of products/services they considered when answering. Finally, some respondents felt that the items listed were difficult to distinguish, as they felt they meant the same thing. The following will discuss these findings in more detail.

A full 1/3 of the respondents we interviewed did not understand the instructions (or did not read the instructions) to rank order these items on a 1-4 scale. Instead, some respondents checked only the items that they felt were relevant in choosing a product to help them quit smoking. Others assigned a single number to all of the items. For example, one respondent marked all of the items with the number "4." When asked why he answered this way he stated that he believed all of these items would play an important role in determining whether he would

use a particular product. Note that this respondent is also considering “4” to mean “most important”. There are no labels on this scale to indicate to respondents whether 1 or 4 is “most important”.

It was difficult to determine why respondents did not follow the instructions in this question. However, it may be possible that respondents never read them. Two respondents indicated during the interview that they did not initially see the instructions to rank order these items, and instead selected the items they felt were relevant. For example, upon reading the question a second time during probing one respondent stated, “one through four- I got that wrong...” She went on to discuss how she didn’t see the instructions when she first read the question and instead she placed a check mark next to the item “more helpful in quitting”.

This question also assumed that respondents had selected a stop smoking product prior to answering this question, and this led to confusion among many of the respondents. Respondents were not sure what type of product they should consider when answering. A couple of respondents thought they should consider a product that they had selected in question #14. One woman asked, “Okay what products? The products I selected in 14? It’s confusing to me.” Similarly, another respondent stated that he was confused by this question. “I didn’t get those questions too clear... We’re talking about a product or a therapy type session?” When asked how he answered, he stated that, like the other respondent, he initially thought this question was asking about products he selected in question 14. However this respondents’ interpretation of this question shifted as he moved through the items.

“I didn’t really quite understand this question... Because I was like ‘when choosing a product,’ I was like I never really chose- I had used a product but it was a few years ago... I wasn’t really sure because I never answered any question that I chose a product. I was like well I didn’t really say I chose any product, so I was like well let me see how I should answer this.”

This was a common problem. And because respondents were not sure what products the question was referring to they turned to the items in the response options to guide their thought processes.

“At first I thought it was talking about the telephone quitline. But when I looked at the first thing and it said cost of therapy, then it basically took out of my head that it wasn’t like a product or actual something that I’m taking. More like somewhere that I’m going and talking. So I looked at it like it as like more, on that question, more of like a therapy, like you know, talking with somebody one on one, group whatever.”

Additionally, there was indication that this respondent was also considering prescription medications when answering. When asked to explain how he ranked these items, he discussed that the ranked availability as “2” because he was considering how far he would have to travel to fill a prescription.

In fact, respondents considered a variety of products/services when answering this question. Some respondents considered the items they selected in the previous question, while others adhered to the products presented in the items (i.e. for cost and convenience they thought of therapy, but for availability they thought about prescriptions). Some respondents adhered to a particular type of product mentioned in the items. Some respondents focused in one “prescription medications” and only thought about these products when ranking the items. For example, when

asked what types of products he was thinking of when answering one respondent replied “It just says prescription in parentheses.” Therefore he considered the cost, convenience, availability and helpfulness of stop smoking prescription medications. Others considered products they had used in the past, while still others considered products they plan to use in future quit attempts. Finally, some respondents mentioned that they did not think of any particular type of product when answering, but rather considered what factors would be important to them in general in selecting a stop smoking product.

The last problem with this question was that some respondents were unable to differentiate between the items, thus making it hard to rank them. For example, one respondent stated “availability and convenience for number fifteen sort of, were very similar.” He defined both convenience and availability of a product as how easy it is to get a product. Additionally, one respondent felt that there was overlap between the availability of a product and the cost of the product. This respondent is on public assistance and she must go to a particular pharmacy to fill prescriptions. If that medication was not available at her designated pharmacy then she would have to pay out of pocket at a different pharmacy for it. Therefore she felt there was significant overlap between the cost of a product and the availability of it.

The following questions (16-20) were tested in Round 1 only.

16. If you were purchasing the medication to quit smoking, would you be willing to pay maximum amount of \$450 out of your pocket for the medication that may help you quit smoking?

- Yes (skip to 20)
- No

Only one respondent answered “yes” to this question and all others answered “no”. We were not able to probe this question extensively due to time constraints, however, of the respondents we probed all answered no. When probed on why they answered the way they did the majority of respondents stated that they could not afford to pay this amount of money out of pocket. Several of these respondents mentioned that they were on public assistance and unless public assistance covered the cost of this medication they would not use it. This series of questions (Q16-20) also makes the assumption that respondents are interested in using a medication to help them quit smoking. One respondent pointed out that she would not be interested in using any type of medication to help her quit smoking, no matter what the cost.

17. If no, would you be willing to pay \$300 out of your pocket for the medication?

- Yes (skip to 20)
- No

This question was also not probed extensively due to time restraints. However, all respondents who received this question answered “no”. Among those who were probed on their response, the majority indicated that they could not afford to pay \$300 out of their own pocket for medication. Again, several respondents mentioned being on public assistance and unless public assistance is willing to cover the cost of the medication they would not be able to afford it. As in the previous question, one respondent pointed out that this question also assumes that

respondents would be interested in taking a medication to help them quit smoking and she is not interested in this, no matter what cost.

18. If no, would you be willing to pay \$150 out of your pocket for the medication?

- Yes (skip to 20)
- No

This question was not probed extensively due to time constraints. Only one respondent who received this question answered “yes”, and all other respondents answered “no”. The one respondent, who answered “yes”, stated that he did so because he is getting older and has a stronger desire to quit smoking. However, it was not clear why this respondent did not answer “yes” to the preceding questions, but cost may have been the reason. Respondents who answered “no”, once again stated that they could not afford to pay \$150 out of pocket for a medication.

19. If no, would you be willing to pay \$100 out of your pocket for the medication?

- Yes
- No

This question was also not extensively probed due to time constraints. Three respondents answered “yes” to this question and seven answered “no.” Respondents who answered “no” reported that they did so because they financially could not afford to pay \$100 out of their own pocket for medication. As mentioned in the previous questions, several of these respondents were on public assistance and unless their public assistance would be willing to pay for it, they could not afford this medication. Similarly, another respondent mentioned that if he had the financial means he would be willing to pay this amount. “If I were financially well off I’d probably pay \$100.” This is an important finding as indicates that this question makes the assumption that respondents have money available to pay for medication – it’s just a question if they are willing to use that money to pay for the medication, which is not necessarily the case. Responses of “no” for these respondents mean they lack the ability to pay for this medication due to their financial situation.

The three respondents who answered “yes” to this question also mentioned that they could not necessarily afford to pay \$100 for a prescription medication; however, if the medication was effective they could try to find the funds to pay for it. As one respondent put it, “I could probably come up with some kind of payment plan. Pay a \$100 at the most.”

Finally, this question assumes that respondents are interested in using a prescription medication to help them stop smoking. One woman stated during probing that she is not interested in using a stop smoking medication, no matter what the cost.

20. Now thinking about your household income and other expenses, how confident are you in your previous answers on willingness to pay for the quit medication. (“X” that apply)

- Very confident
- Somewhat confident
- Not too confident
- Not at all confident

While some respondents appeared to interpret and answer this question correctly, a large portion of respondents did not. Respondents who appeared to interpret this question correctly considered how likely it was that they would pay the amount that they gave an affirmative response to in the preceding questions. These respondents considered their household income and expenses, and how much they could actually afford to pay out of pocket for a stop smoking medication. For some respondents, they felt very confident they would be able to pay the amount they had answered “yes” to in questions 16-19, while others did not feel they would be able to pay the amount they answered “yes” to in questions 16-19. For example, one woman who answered “yes” to question 19 and “very confident” to question 20 stated, “Very confident. I mean \$100, that’s not too much.”

However, about half the respondents we interviewed did not appear to interpret this question correctly. For respondents who answered “no” to questions 16-19 this question did not make sense. These respondents interpreted this question as asking how willing they would be to pay for medication, rather than how confident they were in their response to prior questions. These respondents all selected “not at all confident” to this question. A response of “not at all confident” to this question meant, for these respondents, that they were confident that they could not afford to pay any amount for medication to help them quit smoking. For example, when asked why he responded “not at all confident” to this question one respondent replied, “I can’t do it. It cost too much.” For these respondents a valid response to this question would have been very confident – that is, they are very confident that they would not be willing to pay for this medication.

Additionally, a couple of respondent interpreted this question as asking about how confident they were that a medication could help them quit smoking, rather than how confident they were that they would be willing to pay for medication. For example, one respondent responded to this question “somewhat confident” and when asked why he answered the way he did, he replied “I’m still dealing with it. Still smoking so, I’m just somewhat confident that I will be able to quit.”

The following questions were asked in Round 2 only. Three versions of this set of questions were tested.

(Version 1)

16. Next, we would like you to consider the concept of a hypothetical new quitting medication. This medication would completely block your cravings for cigarettes for six months, would help you quit smoking with a 100% success rate, and has no known side effects. Although this medication is not yet available, there are many treatments in development and something like this may be available in the future. If it was in fact available now, given your current household income and other expenses, would you be willing to pay \$250 out of pocket to purchase this medication

- Yes
- No (skip to 17b)

- Don't know (skip to 17b)

Five respondents received this version of this question in Round 2 and were probed on their responses. Three of these respondents appeared to read and comprehend the hypothetical clauses in the question and provided valid responses. These respondents all gave “yes” responses and indicated that the benefits of this new hypothetical medication outweighed the financial costs. However, note that one of these respondents reported that she only answered “yes” to this question because it was hypothetical question and she was not sure that she could actually afford to pay \$250 out of pocket for a stop smoking medication. This respondent was also suspicious of the claim that this stop smoking product could guarantee a 100% success rate.

Other respondents also raised issues with this question. One respondent felt the claims made in this question were ambiguous. First this question claims that this new medication “would completely block your cravings for cigarettes for six months.” However, it was unclear to this respondent whether his cravings would then return following that six month time period. Second, it was not clear to this respondent if he would have to pay \$250 one time in order to receive the medication or if he would have to pay \$250 every month for six months. This respondent ultimately answered “don't know” and stated that he would need a lot more information before providing a yes or no response to this question.

Finally, by asking about one's willingness to pay rather than one's ability to pay, this question makes an assumption that respondents' interest in this product is tied to the performance of the medication, rather than respondents' financial ability to pay for the medication. Several of the respondent mentioned that they were financially unable to pay this amount. Moreover one respondent, who ultimately answered “no” to this question, noted that she would be willing to pay this amount if she had \$250 she could spend on a medication. “I wouldn't want to say ‘no, I wouldn't be willing to pay for it’ because I would but I can't.”

(Version 2)

16. Next, we would like you to consider the concept of a hypothetical new quitting medication. This medication would completely block your cravings for cigarettes for six months, would help you quit smoking with a 100% success rate, and has no known side effects. Although this medication is not yet available, there are many treatments in development and something like this may be available in the future. If it was in fact available now, given your current household income and other expenses, would you be willing to pay \$750 out of pocket to purchase this medication

- Yes
- No (skip to 17b)
- Don't know (skip to 17b)

Five respondents received this version of this question. Three of these respondents answered “yes,” one answered “no” and one answered “don't know.” The majority of these respondents appeared to understand this question and appeared to pay attention to the hypothetical clauses regarding the effectiveness and cost of the product. For one respondent, who answered yes, the fact that this medication would completely block an individual's cravings for cigarettes and had no side effects was appealing to her. However, for others, who answered

“yes”, their response was more driven by the cost. For these respondents, \$750 was within their budget, but was the most they would be financially capable of paying for a medication.

One problem did emerge from this question. One respondent stated that he did not read question because of its length. “Actually I didn’t even read the whole thing. Because I seen \$750 here and I figured it was asking me if I wanted to pay \$750, which is what it said.” However, because this respondent did not read the whole question, he missed the hypothetical clauses, which ultimately affected his response. When asked why he responded no to this question he stated,

“Why would I give anybody \$750 of my money... unless I know beyond a reasonable doubt that \$750 was going to make me quit. Why hadn’t these other days and years and months and whatever in my life have I never quit and going through all the things I may have went through of somebody else may have went through? My answer is just unequivocally no.”

(Version 3)

16. Next, we would like you to consider the concept of a hypothetical new quitting medication. This medication would completely block your cravings for cigarettes for six months, would help you quit smoking with a 100% success rate, and has no known side effects. Although this medication is not yet available, there are many treatments in development and something like this may be available in the future. If it was in fact available now, given your current household income and other expenses, would you be willing to pay \$1500 out of pocket to purchase this medication

- Yes
- No (skip to 17b)
- Don’t know (skip to 17b)

Only three respondents received this version of this question during testing. Two of these respondents responded “no” and one responded “yes” to this question. The respondent who answered “yes” to this question appeared to adhere to the hypothetical clauses in the question and determined they were reason enough to pay this amount for this medication, stating “it would be worth it.” However, for the two respondents who answered “no” to this question, the financial cost of the medication, the point they are at in the quitting process and their desire to take a medication were all reasons for why they answered “no.” For example, when asked why she responded the way she did one woman stated, “I don’t have that kind of money.” She also added that she is not interested in using a medication to help her quit smoking. The other respondent who answered no reported that she is not ready to quit smoking and therefore would not spend that amount of money on a stop smoking product.

(Version 1)

17a. Would you be willing to pay \$750 out of pocket for this new medication?

- Yes (Skip to 18)

- No (Skip to 18)
- Don't know (Skip to 18)

Three respondents received this version of this question and were probed on their response. Additionally, one respondent who should have skipped over this question based on her response to the previous question ended up answering this question. However, this respondent was not probed on her response. Of the respondents who received this question, two answered “yes” and one answered “no.” For the two respondents who answered yes, both considered the benefits of this medication and determined that they outweighed the financial costs. Also, both of these respondents noted that spending \$750 on this medication would financially cost less than continuing to smoke in the long run. The respondent who answered “no” did not consider the hypothetical benefits of this medication, but rather focused on what she in reality could afford to pay. For her, spending \$250 out of pocket on a medication would be difficult, and \$750 would be impossible for her to do. Once again, it is not about the respondents’ willingness to spend \$750 on a medication but rather their ability to do so.

(Version 2)

17a. Would you be willing to pay \$1500 out of pocket for this new medication?

- Yes (Skip to 18)
- No (Skip to 18)
- Don't know (Skip to 18)

Three respondents received this version of this question, as they all answered “yes” to question 16. Of these respondents, all three answered “no” to this question. For these respondents the cost alone was the reason why they answered “no.” Although these respondents felt they could afford or save up \$750 to pay for this stop smoking medication, \$1500, in the words of one respondent, was “too steep” of a price.

(Version 3)

17a. Would you be willing to pay \$2500 out of pocket for this new medication?

- Yes (skip to 18)
- No (skip to 18)
- Don't know (skip to 18)

Only one respondent received this version of this question during testing. This respondent answered “no” to this question and stated that she could not afford to pay \$2500 for a prescription medication given her budget. Although she indicated during probing on the previous question that the amount did not matter if the product had a 100% success rate and would have no side effects, she “would rather pay the cheaper price.” She added that if she had \$2500 to spare she would be willing to purchase this product. However, since it is not within her current budget, she does not think it’s feasible.

(Version 1)

17b. Would you be willing to pay \$100 out of pocket for this new medication?

- Yes
- No (Skip to 19)
- Don't know (Skip to 19)

Two respondents received this version of this question. One of these respondents answered “yes” to this question, stating that would be more willing to pay \$100 than \$250, however he would still need more information regarding the product before he purchased it. This same respondent had pointed out ambiguities in the hypothetical clauses in question 16. Because he was unsure of the total cost of the product, and if his cravings would come back after six months, he was not confident in his response that he would pay \$100 for this medication. The respondent who answered “no” to this question did so because she cannot afford to pay this amount. “I don't have \$100 to spare.” This respondent commented that would be willing to pay this amount if she had the funds available. Note that this question makes an assumption that respondents have the money to pay for this type of medication and that their willingness to pay is tied to the effectiveness of the product, rather than the cost. For many respondents their response of yes or no was based on their ability, not their willingness to pay for this medication.

(Version 2)

17b. Would you be willing to pay \$250 out of pocket for this new medication?

- Yes
- No (Skip to 19)
- Don't know (Skip to 19)

Two respondents received this version of this question. Both of these respondents responded “don't know” to this question. When asked why he responded “don't know” one respondent replied that “\$250 is not that bad.” Although this amount (\$250) seems a lot more reasonable to him compared to \$750, he's still unsure of his willingness to quit smoking, and therefore is unsure of whether he would spend this much money for a medication.

(Version 3)

17b. Would you be willing to pay \$750 out of pocket for this new medication?

- Yes
- No (skip to 19)
- Don't know (skip to 19)

Two respondents received this version of this question during testing. Both of these respondents responded “no” to this question. These respondents gave the same reasoning as they did in question 16. One respondent did not feel ready to quit smoking and therefore was unwilling to pay \$750 for a stop smoking product. The other respondent reported that she wasn't interested in using a medication to help her quit smoking. Additionally, she would not be able to

afford the medication given her budget. This respondent was probed to see if she would be interested in the medication if the cost was lowered and she said “no.”

In sum there were there patterns that emerged across the different versions of this set of questions. First, these questions assume that respondents are ready to quit smoking. Second, these questions assume that respondents are interested in using a medication to help them quit smoking. Finally, these questions assume that respondents can afford this medication and in the case of questions tested in Round 2, that their willingness is contingent upon the effectiveness of the medication, rather than their ability to pay for the medication.

References

- Creswell, John W. 1998. *Qualitative Inquiry and Research Design: Choosing Among Five Traditions*. Thousand Oaks: Sage Publications.
- Glaser, B.G., & Strauss. A.L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. New York: Aldine De Gruyter.
- Lincoln, Yvonna, and Egon G. Guba. 1985. *Naturalistic Inquiry*. Beverly Hills, CA: Sage Publications.
- Miller, Kristen. 2009. *Cognitive Interviewing*. Paper presented at the Workshop on Question Evaluation Methods, Hyattsville, MD.
- Ridolfo, Heather and Caroline Gray. 2010. *Testing of DOH Dental Health Questions: Results of Interviews Conducted September 2009-March 2010*, Hyattsville, MD: National Center for Health Statistics.
- Strauss, Anselm C., and Juliet Corbin. 1990. *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*. Newbury Park: Sage Publications.
- Tourangeau, Roger, Lance J. Rips, and Kenneth Rasinski. 2000. *The Psychology of Survey Response*. New York: Cambridge University Press.
- Willis, Gordon. 2005. *Cognitive Interviewing: A Tool for Improving Questionnaire Design*. Thousand Oaks, CA: Sage Publications

Appendix A: Round 1 Instrument Used During Testing

1. Which, if any, of the following services or products, do you think help smokers quit?
(“X” all that apply)
 - Stop smoking clinic or class
 - Telephone quitline
 - One-on-one counseling from a health care provider
 - Self-help materials, books or videos
 - Nicotine patch, gum, lozenge, inhaler
 - Prescription medications (Zyban/Wellbutrin/bupropion, Chantix)
 - Acupuncture
 - Hypnosis
 - Internet quit site
 - Mobile phone/PDA
 - Other
 - None

2. Stop smoking products with nicotine are....? (“X” ONE)
 - More harmful than cigarettes
 - Less harmful than cigarettes
 - As harmful as cigarettes
 - Don’t know

3. What types of assistance did you utilize the last time when you tried to quit smoking?
(“X” all that apply)
 - Stop smoking clinic or class
 - Telephone quitline
 - One-on-one counseling from a health care provider
 - Self-help materials, books or videos
 - Nicotine patch, gum, lozenge, inhaler

- Prescription medications (Zyban/Wellbutrin/bupropion, Chantix)
- Acupuncture
- Hypnosis
- Internet quit site
- Mobile phone/PDA
- Other
- None

4. The last time you tried to quit smoking what did you do? (“X” all that apply)

- Gradually reduced the number of cigarettes smoked
- Switched to “light cigarettes”
- Switched to smokeless tobacco/snuff
- Got help from family/friends
- Other
- None

5. How many times have you tried to quit smoking?

6. What best describes your intentions regarding quitting smoking? Would you say you...(“X” one)

- Will quit in the next 30 days
- Will quit in the next 6 months
- Will quit sometime but not in the next 6 months
- I do not plan to quit

7. What **medical information** could your health care provider give you that would increase your motivation to quit? (“X” all that apply)

Information on...

- How smoking is affecting your overall health
- How smoking is affecting your current health problems
- How smoking around others affects their health
- Your family history of smoking-related illnesses
- Other
- I do not need medical information about smoking
- Information from my provider won’t increase my motivation to quit

8. What **information on quitting** could your health care provider give you that would increase your motivation to quit? (“X” all that apply)

Information on...

- How the quitting process works (it takes several tries to quit)
- How he/she can help you develop a plan for quitting
- How telephone quitlines work

- How stop smoking clinics/classes work
- How quitting medications work
- Services that are covered by my health insurance
- How to get support for quitting from your family/friends
- How to deal with stress when quitting
- Other
- I do not need information about quitting
- Information from my provider won't increase my motivation to quit

9. What **services** would you want from your health care provider to help you quit? (“X” all that apply)

- Help developing a plan for quitting
- Prescription for quitting medication
- Self help materials, books, or videos
- Referral to stop smoking clinic/class/specialist
- Referral to a telephone quitline
- Information on how to quit on your own
- Information for family/friends to help you quit
- Other
- I would not be interested in services from my provider

10. How likely are you to seek health care provider’s advice in your next quit attempt? (5= Most likely, 1=least likely)

1 2 3 4 5

11. Have you ever asked a health care provider for help in quitting smoking?

- Yes
- No

12. Do you think a health care provider should help you quit smoking?

- Yes
- No

13. If the following services/treatments were free, which would you use in your next quit attempt? (“X” all that apply)

- Stop smoking clinic or class
- Telephone quitline
- One-on-one counseling from a health care provider
- Self-help materials, books or videos
- Nicotine patch, gum, lozenge, inhaler
- Prescription medications (Zyban/Wellbutrin/bupropion, Chantix)

- Acupuncture
- Hypnosis
- Internet quit site
- Mobile phone/PDA
- Other
- I would not use any services/treatments

14. What services would you want from a free telephone quitline to help you quit? (“X” all that apply)

- Help developing a quit plan
- Information on quitting medications
- Self help materials, books, or videos
- Referral to stop smoking clinic/class/local specialist
- Information on how quit on your own
- Information for family/friends to help you quit
- Information on healthy eating/increasing exercise
- Unlimited calls
- Access to internet services
- Free quitting medications
- Prizes for quitting
- Other
- I would not be interested in quitline services

15. What are the important factors to you in choosing the product you selected? Please, rank them (1 to 4) in order.

- [] Costs of the therapy
- [] Convenience of the therapy
- [] Availability (prescription or nonprescription)
- [] More helpful in quitting

16. If you were purchasing the medication to quit smoking, would you be willing to pay maximum amount of \$450 out of your pocket for the medication that may help you quit smoking?

- Yes (skip to 20)
- No

17. If no, would you be willing to pay \$300 out of your pocket for the medication?

- Yes (skip to 20)
- No

18. If no, would you be willing to pay \$150 out of your pocket for the medication?

- Yes (skip to 20)
- No

19. If no, would you be willing to pay \$100 out of your pocket for the medication?

- Yes
- No

20. Now thinking about your household income and other expenses, how confident are you in your previous answers on willingness to pay for the quit medication. (“X” that apply)

- Very confident
- Somewhat confident
- Not too confident
- Not at all confident

Appendix B: Round 2 Instruments Used During Testing

Version 1

1. Which, if any, of the following services or products, do you think help smokers quit?
("X" all that apply)
 - Stop smoking clinic or class
 - Telephone quitline
 - One-on-one counseling from a health care provider
 - Self-help materials, books or videos
 - Nicotine patch, gum, lozenge, inhaler
 - Prescription medications (Zyban/Wellbutrin/bupropion, Chantix)
 - Acupuncture
 - Hypnosis
 - Internet quit site
 - Mobile phone/PDA
 - Other
 - None

2. Stop smoking products with nicotine are....? ("X" ONE)
 - More harmful than cigarettes
 - Less harmful than cigarettes
 - As harmful as cigarettes
 - Don't know

3. What types of assistance did you utilize the last time when you tried to quit smoking?
("X" all that apply)
 - Stop smoking clinic or class
 - Telephone quitline
 - One-on-one counseling from a health care provider
 - Self-help materials, books or videos
 - Nicotine patch, gum, lozenge, inhaler
 - Prescription medications (Zyban/Wellbutrin/bupropion, Chantix)
 - Acupuncture
 - Hypnosis
 - Internet quit site
 - Mobile phone/PDA
 - Other
 - None

4. The last time you tried to quit smoking what did you do? ("X" all that apply)
 - Gradually reduced the number of cigarettes smoked
 - Switched to "light cigarettes"
 - Switched to smokeless tobacco/snuff
 - Got help from family/friends
 - Other
 - None

5. How many times have you tried to quit smoking?

6. What best describes your intentions regarding quitting smoking? Would you say you...("X" one)

- Will quit in the next 30 days
- Will quit in the next 6 months
- Will quit sometime but not in the next 6 months
- I do not plan to quit

7. What **medical information** could your health care provider give you that would increase your motivation to quit? ("X" all that apply)

Information on...

- How smoking is affecting your overall health
- How smoking is affecting your current health problems
- How smoking around others affects their health
- Your family history of smoking-related illnesses
- Other
- I do not need medical information about smoking
- Information from my provider won't increase my motivation to quit

8. What **information on quitting** could your health care provider give you that would increase your motivation to quit? ("X" all that apply)

Information on...

- How the quitting process works (it takes several tries to quit)
- How he/she can help you develop a plan for quitting
- How telephone quitlines work
- How stop smoking clinics/classes work
- How quitting medications work
- Services that are covered by my health insurance
- How to get support for quitting from your family/friends
- How to deal with stress when quitting
- Other
- I do not need information about quitting
- Information from my provider won't increase my motivation to quit

9. What **services** would you want from your health care provider to help you quit? (“X” all that apply)
- Help developing a plan for quitting
 - Prescription for quitting medication
 - Self help materials, books, or videos
 - Referral to stop smoking clinic/class/specialist
 - Referral to a telephone quitline
 - Information on how to quit on your own
 - Information for family/friends to help you quit
 - Other
 - I would not be interested in services from my provider
10. How likely are you to seek health care provider’s advice in your next quit attempt? (5= Most likely, 1=least likely)
- 1 2 3 4 5
11. Have you ever asked a health care provider for help in quitting smoking?
- Yes
 - No
12. Do you think a health care provider should help you quit smoking?
- Yes
 - No
13. If the following services/treatments were free, which would you use in your next quit attempt? (“X” all that apply)
- Stop smoking clinic or class
 - Telephone quitline
 - One-on-one counseling from a health care provider
 - Self-help materials, books or videos
 - Nicotine patch, gum, lozenge, inhaler
 - Prescription medications (Zyban/Wellbutrin/bupropion, Chantix)
 - Acupuncture
 - Hypnosis
 - Internet quit site
 - Mobile phone/PDA
 - Other
 - I would not use any services/treatments

14. What services would you want from a free telephone quitline to help you quit? (“X” all that apply)

- Help developing a quit plan
- Information on quitting medications
- Self help materials, books, or videos
- Referral to stop smoking clinic/class/local specialist
- Information on how quit on your own
- Information for family/friends to help you quit
- Information on healthy eating/increasing exercise
- Unlimited calls
- Access to internet services
- Free quitting medications
- Prizes for quitting
- Other
- I would not be interested in quitline services

15. What are the important factors to you in choosing the product you selected? Please, rank them (1 to 4) in order.

- [] Costs of the therapy
- [] Convenience of the therapy
- [] Availability (prescription or nonprescription)
- [] More helpful in quitting

16. Next, we would like you to consider the concept of a hypothetical new quitting medication. This medication would completely block your cravings for cigarettes for six months, would help you quit smoking with a 100% success rate, and has no known side effects. Although this medication is not yet available, there are many treatments in development and something like this may be available in the future. If it was in fact available now, given your current household income and other expenses, would you be willing to pay \$250 out of pocket to purchase this medication

- Yes
- No (skip to 17b)
- Don't know (skip to 17b)

17a. Would you be willing to pay \$750 out of pocket for this new medication?

- Yes (Skip to 18)
- No (Skip to 18)
- Don't know (Skip to 18)

17b. Would you be willing to pay \$100 out of pocket for this new medication?

- Yes
- No (Skip to 19)
- Don't know (Skip to 19)

Version 2

1. Which, if any, of the following services or products, do you think help smokers quit?
("X" all that apply)
 - Stop smoking clinic or class
 - Telephone quitline
 - One-on-one counseling from a health care provider
 - Self-help materials, books or videos
 - Nicotine patch, gum, lozenge, inhaler
 - Prescription medications (Zyban/Wellbutrin/bupropion, Chantix)
 - Acupuncture
 - Hypnosis
 - Internet quit site
 - Mobile phone/PDA
 - Other
 - None

2. Stop smoking products with nicotine are....? ("X" ONE)
 - More harmful than cigarettes
 - Less harmful than cigarettes
 - As harmful as cigarettes
 - Don't know

3. What types of assistance did you utilize the last time when you tried to quit smoking?
("X" all that apply)
 - Stop smoking clinic or class
 - Telephone quitline
 - One-on-one counseling from a health care provider
 - Self-help materials, books or videos
 - Nicotine patch, gum, lozenge, inhaler
 - Prescription medications (Zyban/Wellbutrin/bupropion, Chantix)
 - Acupuncture
 - Hypnosis
 - Internet quit site
 - Mobile phone/PDA
 - Other
 - None

4. The last time you tried to quit smoking what did you do? ("X" all that apply)
 - Gradually reduced the number of cigarettes smoked
 - Switched to "light cigarettes"
 - Switched to smokeless tobacco/snuff
 - Got help from family/friends
 - Other
 - None

5. How many times have you tried to quit smoking?

6. What best describes your intentions regarding quitting smoking? Would you say you...("X" one)

- Will quit in the next 30 days
- Will quit in the next 6 months
- Will quit sometime but not in the next 6 months
- I do not plan to quit

7. What **medical information** could your health care provider give you that would increase your motivation to quit? ("X" all that apply)

Information on...

- How smoking is affecting your overall health
- How smoking is affecting your current health problems
- How smoking around others affects their health
- Your family history of smoking-related illnesses
- Other
- I do not need medical information about smoking
- Information from my provider won't increase my motivation to quit

8. What **information on quitting** could your health care provider give you that would increase your motivation to quit? ("X" all that apply)

Information on...

- How the quitting process works (it takes several tries to quit)
- How he/she can help you develop a plan for quitting
- How telephone quitlines work
- How stop smoking clinics/classes work
- How quitting medications work
- Services that are covered by my health insurance
- How to get support for quitting from your family/friends
- How to deal with stress when quitting
- Other
- I do not need information about quitting
- Information from my provider won't increase my motivation to quit

9. What **services** would you want from your health care provider to help you quit? (“X” all that apply)
- Help developing a plan for quitting
 - Prescription for quitting medication
 - Self help materials, books, or videos
 - Referral to stop smoking clinic/class/specialist
 - Referral to a telephone quitline
 - Information on how to quit on your own
 - Information for family/friends to help you quit
 - Other
 - I would not be interested in services from my provider
10. How likely are you to seek health care provider’s advice in your next quit attempt? (5= Most likely, 1=least likely)
- 1 2 3 4 5
11. Have you ever asked a health care provider for help in quitting smoking?
- Yes
 - No
12. Do you think a health care provider should help you quit smoking?
- Yes
 - No
13. If the following services/treatments were free, which would you use in your next quit attempt? (“X” all that apply)
- Stop smoking clinic or class
 - Telephone quitline
 - One-on-one counseling from a health care provider
 - Self-help materials, books or videos
 - Nicotine patch, gum, lozenge, inhaler
 - Prescription medications (Zyban/Wellbutrin/bupropion, Chantix)
 - Acupuncture
 - Hypnosis
 - Internet quit site
 - Mobile phone/PDA
 - Other
 - I would not use any services/treatments

14. What services would you want from a free telephone quitline to help you quit? (“X” all that apply)

- Help developing a quit plan
- Information on quitting medications
- Self help materials, books, or videos
- Referral to stop smoking clinic/class/local specialist
- Information on how quit on your own
- Information for family/friends to help you quit
- Information on healthy eating/increasing exercise
- Unlimited calls
- Access to internet services
- Free quitting medications
- Prizes for quitting
- Other
- I would not be interested in quitline services

15. What are the important factors to you in choosing the product you selected? Please, rank them (1 to 4) in order.

- Costs of the therapy
- Convenience of the therapy
- Availability (prescription or nonprescription)
- More helpful in quitting

16. Next, we would like you to consider the concept of a hypothetical new quitting medication. This medication would completely block your cravings for cigarettes for six months, would help you quit smoking with a 100% success rate, and has no known side effects. Although this medication is not yet available, there are many treatments in development and something like this may be available in the future. If it was in fact available now, given your current household income and other expenses, would you be willing to pay \$750 out of pocket to purchase this medication

- Yes
- No (skip to 17b)
- Don't know (skip to 17b)

17a. Would you be willing to pay \$1500 out of pocket for this new medication?

- Yes (Skip to 18)
- No (Skip to 18)
- Don't know (Skip to 18)

17b. Would you be willing to pay \$250 out of pocket for this new medication?

- Yes
- No (Skip to 19)
- Don't know (Skip to 19)

Version 3

1. Which, if any, of the following services or products, do you think help smokers quit?
("X" all that apply)
 - Stop smoking clinic or class
 - Telephone quitline
 - One-on-one counseling from a health care provider
 - Self-help materials, books or videos
 - Nicotine patch, gum, lozenge, inhaler
 - Prescription medications (Zyban/Wellbutrin/bupropion, Chantix)
 - Acupuncture
 - Hypnosis
 - Internet quit site
 - Mobile phone/PDA
 - Other
 - None

2. Stop smoking products with nicotine are....? ("X" ONE)
 - More harmful than cigarettes
 - Less harmful than cigarettes
 - As harmful as cigarettes
 - Don't know

3. What types of assistance did you utilize the last time when you tried to quit smoking?
("X" all that apply)
 - Stop smoking clinic or class
 - Telephone quitline
 - One-on-one counseling from a health care provider
 - Self-help materials, books or videos
 - Nicotine patch, gum, lozenge, inhaler
 - Prescription medications (Zyban/Wellbutrin/bupropion, Chantix)
 - Acupuncture
 - Hypnosis
 - Internet quit site
 - Mobile phone/PDA
 - Other
 - None

4. The last time you tried to quit smoking what did you do? ("X" all that apply)
 - Gradually reduced the number of cigarettes smoked
 - Switched to "light cigarettes"
 - Switched to smokeless tobacco/snuff
 - Got help from family/friends
 - Other
 - None

5. How many times have you tried to quit smoking?

6. What best describes your intentions regarding quitting smoking? Would you say you...("X" one)

- Will quit in the next 30 days
- Will quit in the next 6 months
- Will quit sometime but not in the next 6 months
- I do not plan to quit

7. What **medical information** could your health care provider give you that would increase your motivation to quit? ("X" all that apply)

Information on...

- How smoking is affecting your overall health
- How smoking is affecting your current health problems
- How smoking around others affects their health
- Your family history of smoking-related illnesses
- Other
- I do not need medical information about smoking
- Information from my provider won't increase my motivation to quit

8. What **information on quitting** could your health care provider give you that would increase your motivation to quit? ("X" all that apply)

Information on...

- How the quitting process works (it takes several tries to quit)
- How he/she can help you develop a plan for quitting
- How telephone quitlines work
- How stop smoking clinics/classes work
- How quitting medications work
- Services that are covered by my health insurance
- How to get support for quitting from your family/friends
- How to deal with stress when quitting
- Other
- I do not need information about quitting
- Information from my provider won't increase my motivation to quit

9. What **services** would you want from your health care provider to help you quit? (“X” all that apply)
- Help developing a plan for quitting
 - Prescription for quitting medication
 - Self help materials, books, or videos
 - Referral to stop smoking clinic/class/specialist
 - Referral to a telephone quitline
 - Information on how to quit on your own
 - Information for family/friends to help you quit
 - Other
 - I would not be interested in services from my provider
10. How likely are you to seek health care provider’s advice in your next quit attempt? (5= Most likely, 1=least likely)
- 1 2 3 4 5
11. Have you ever asked a health care provider for help in quitting smoking?
- Yes
 - No
12. Do you think a health care provider should help you quit smoking?
- Yes
 - No
13. If the following services/treatments were free, which would you use in your next quit attempt? (“X” all that apply)
- Stop smoking clinic or class
 - Telephone quitline
 - One-on-one counseling from a health care provider
 - Self-help materials, books or videos
 - Nicotine patch, gum, lozenge, inhaler
 - Prescription medications (Zyban/Wellbutrin/bupropion, Chantix)
 - Acupuncture
 - Hypnosis
 - Internet quit site
 - Mobile phone/PDA
 - Other
 - I would not use any services/treatments

14. What services would you want from a free telephone quitline to help you quit? (“X” all that apply)

- Help developing a quit plan
- Information on quitting medications
- Self help materials, books, or videos
- Referral to stop smoking clinic/class/local specialist
- Information on how quit on your own
- Information for family/friends to help you quit
- Information on healthy eating/increasing exercise
- Unlimited calls
- Access to internet services
- Free quitting medications
- Prizes for quitting
- Other
- I would not be interested in quitline services

15. What are the important factors to you in choosing the product you selected? Please, rank them (1 to 4) in order.

- [] Costs of the therapy
- [] Convenience of the therapy
- [] Availability (prescription or nonprescription)
- [] More helpful in quitting

16. Next, we would like you to consider the concept of a hypothetical new quitting medication. This medication would completely block your cravings for cigarettes for six months, would help you quit smoking with a 100% success rate, and has no known side effects. Although this medication is not yet available, there are many treatments in development and something like this may be available in the future. If it was in fact available now, given your current household income and other expenses, would you be willing to pay \$1500 out of pocket to purchase this medication

- Yes
- No (skip to 17b)
- Don't know (skip to 17b)

17a. Would you be willing to pay \$2500 out of pocket for this new medication?

- Yes (skip to 18)
- No (skip to 18)
- Don't know (skip to 18)

17b. Would you be willing to pay \$750 out of pocket for this new medication?

- Yes
- No (skip to 19)
- Don't know (skip to 19)