

THE UNIVERSITY OF CHICAGO

Tobacco Knowledge, Attitudes, and Services
Among Spanish-speaking
Community Health Workers

By

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April 2022

A paper submitted in partial fulfillment of the requirements for the
Master of Arts degree in the
Master of Arts Program in the Social Sciences

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Abstract

Tobacco-related illnesses are among the leading preventable causes of death for Latinxs in the United States. Unfortunately, Latinxs are less likely to receive advice to quit from health professionals or use tobacco cessation strategies, such as nicotine replacement therapies (NRTs), than non-Hispanic whites. The position of community health workers (CHWs) as health workers who address health issues outside strict healthcare settings warrants further attention to address smoking cessation disparities in Latinxs. A needs assessment with Spanish-speaking CHWs serving Latinx communities in a metropolitan area was conducted to understand tobacco-related services, attitudes, and knowledge. Results suggest that Spanish-speaking CHWs are mainly employed in community organizations (67%) part-time (55%). CHWs offer various services, with health education as the most predominant one. In terms of tobacco-related services, most of the CHWs (58.6%) assess/discuss tobacco use, yet half of the sample (51.7%) reported low confidence in addressing this issue directly. Some CHWs (41%) expressed that their clients/patients would use NRTs if offered and identified “Financial Cost” (31%) as a significant deterrent to the use of NRTs. CHWs’ score on a Tobacco Knowledge questionnaire was low, indicating low knowledge of areas related to tobacco (4.03 out of 10; $SD=1.92$). There were some differences in terms of employment characteristics, time spent with clients/patients, and preferences for future training when comparing the Spanish-speaking CHWs with the results from a previous sample of English-speaking CHWs. This study suggests that Spanish-speaking CHWs will benefit from tobacco cessation training that considers their specific needs.

Keywords: Latinx health, tobacco use, smoking, community health workers.

Introduction

Tobacco Usage and Cessation Disparities

Around 40 million adults and almost 5 million middle and high school adolescents smoke cigarettes or use tobacco, or nicotine-containing, products in the United States (e.g., cigars; Center for Disease Control and Prevention [CDC], 2021a). The plant used in most tobacco products, *Nicotiana*, has been used to treat various physical ailments by communities across the world dating back to 2500 BC (Charlton, 2004; Doll, 1999). However, current tobacco drastically differs from the original *Nicotiana* plant. The modern tobacco version has been chemically modified to contain more than 4000 chemical compounds, with over 60 of them scientifically linked to cancer (Engstrom et al., 2003).

At the start of the 20th century, antitobacco civil movements in the United States were the first groups to raise awareness of the damaging effects cigarettes had on health (Doll, 1999). Despite these civil movements, tobacco companies had the economic and political power to suppress negative sentiments toward tobacco for the first half of the 20th century (Brownell & Warner, 2009). For example, in 1954, the tobacco industry developed a public relations campaign published in more than 400 newspapers across the country, entitled “A Frank Statement to Cigarette Smokers,” emphasizing that tobacco companies cared deeply about the health of Americans (Brownell & Warner, 2009). Despite these public relations efforts, the medical literature of the 1950s was growingly finding links between tobacco use and cancer (Doll, 1999). The accumulation of these medical results culminated in the 1964 Surgeon General’s seminal report, which, among many things, established a causal relationship between tobacco and lung cancer (Brawley et al., 2013).

Tobacco use has drastically declined since the publication of the Surgeon General's report (Antman et al., 2014). Still, significant disparities are predominant in underserved populations based on race, ethnicity, education level, socioeconomic status, sexual orientation, and mental health status (National Center for Chronic Disease Prevention and Health Promotion (US) Office on Smoking and Health, 2014). According to the CDC, tobacco use continues to be the leading reason for preventable sickness, disability, and death in the United States (2021a). Similarly, the tobacco industry has disproportionately targeted underserved communities to promote its products and perpetuate addiction cycles (Velasco-Mondragon et al., 2016). For example, tobacco companies have aggressively advertised their products using Latinx names such as "Rio" and "Dorado" to increase and retain Latinx tobacco consumption (CDC, 2021a). Research on tobacco use within underserved communities warrants further attention as it directly affects individuals' mental, physical, and social wellbeing.

Latinxs¹ in the United States account for almost 18% of the total population, and between 2010 and 2019, they accounted for approximately half of the total population growth (Noe-Bustamante et al., 2020a). In particular, within the metropolitan area of Chicago, Illinois, the percentage of Latinx individuals exceeds the national average, accounting for almost 29% of the population in the city (United States Census Bureau, 2020). This group's moderate size and maintained growth call for increased research into their health statuses and needs to inform accurate and inclusive health policy.

¹Latinx refers to individuals who are part of or related to Latin American heritage and its culture (Noe-Bustamante et al., 2020b). It is a gender-neutral term used to refer to all people who identify with Latin American heritage. Even though the literature tends to refer to people of Latin American, Caribbean, and Spanish descent as Hispanics, the term Latinx will be used in this work as it will primarily focus on people from Latin America.

Latinxs have been a historically underserved group in the United States (Velasco-Mondragon et al., 2016). It is of significant concern how Latinxs have had less access to healthcare services and preventative health interventions than any other ethnic minority group (National Center for Health Statistics, 2019). It is estimated that half of the total Latinx population in the country is uninsured (U.S. Department of Health and Human Services, 2021). Similar to disproportionate access to health care services, health disparities have been common across Latinx groups. For example, obesity disproportionately affects Latinxs, with over 42% of adults categorized as obese compared to 35% of non-Hispanic whites and 11% of non-Hispanic Asians (Ogden et al., 2015). Furthermore, regarding obesity, women are disproportionately more affected than men, and Puerto Ricans have higher tendencies to be classified as obese (Velasco-Mondragon et al., 2016). These within-group differences should also serve as a reminder that even though the literature refers to Latinxs as one cohesive group, there is vast intra-group heterogeneity (e.g., country of origin).

Concerning tobacco use, the proportion of Latinx adults who smoke cigarettes remains around 13%, which is lower than 17% for those who identify as non-Hispanic whites (Dominguez et al., 2015; National Center for Health Statistics, 2019). Similarly, the literature suggests that Latinx smokers have light and intermittent smoking patterns, consume fewer cigarettes per day, and smoke fewer days a month than non-Hispanic white smokers (Babb et al., 2020; Dominguez et al., 2015; Trinidad et al., 2009). Taken together, these smoking patterns might suggest that Latinxs face lower health adversities from smoking. Nevertheless, light and intermittent smoking patterns still place individuals at higher risk of developing lung cancer (Schane et al., 2010) and other health adversities such as coronary heart diseases and strokes (Hackshaw et al., 2018).

Furthermore, there are significant disparities in tobacco cessation² between Latinxs and non-Hispanic whites. For instance, brief advice to quit from healthcare professionals is considered a helpful strategy to promote quitting attempts in people who smoke (Li et al., 2018; Papadakis et al., 2020). Brief advice to quit could look like a health provider having a short conversation on whether the individual has considered to quit smoking (Babb et al., 2020; Papadakis et al., 2020). Advice to quit smoking delivered in under three minutes has even shown positive trends in quit attempts and long-term tobacco cessation outcomes (United States Public Health Service Office of the Surgeon General & National Center for Chronic Disease Prevention and Health Promotion Office on Smoking and Health, 2020). Despite the benefits of brief advice to quit, it has been thoroughly documented that Latinxs are around 50% less likely to receive advice to quit smoking from a healthcare professional when compared to non-Hispanic whites (Babb et al., 2020; Levinson et al., 2004; Trinidad et al., 2011). As mentioned above, this trend is particularly alarming given how brief advice to quit from health care professionals has been linked to increased quit attempts (Fiore et al., 2008).

Unsurprisingly, Latinxs tend to be less successful at tobacco cessation than non-Hispanic whites (Trinidad et al., 2011). Evidence-based tobacco cessation interventions include behavioral (e.g., motivational interviewing) and pharmacotherapy (e.g., varenicline) strategies that have been shown to aid individuals in the process of abstaining from tobacco products (Maseeh & Kwatra, 2005). Patnode and colleagues (2021) systematically reviewed the literature on the effectiveness of smoking cessation interventions. The researchers found supporting evidence for combining pharmacotherapy and behavioral interventions, nicotine replacement therapies

² Tobacco cessation and smoking cessation are used interchangeably across the literature. Both terms are predominantly used to refer to people stopping smoking cigarettes. This thesis will primarily use tobacco cessation, given how this term encompasses other uses of tobacco beyond just cigarettes (e.g., chewing tobacco).

(NRTs), bupropion, varenicline, and advice from clinicians as smoking cessation interventions to increase quit rates (Patnode et al., 2021). NRTs are products that temporarily provide controlled nicotine doses to individuals to counteract nicotine withdrawal symptoms and support abstinence (Wadgave & Nagesh, 2016). Also, NRTs are commercially available and come in various presentations (e.g., patch, gum), which aim to match the specific preferences of each individual to increase better tobacco cessation results (Wadgave & Nagesh, 2016). Despite the benefits and increased accessibility of smoking cessation interventions, Latinxs are less likely to use evidence-based tobacco cessation treatments, NRTs in particular, compared to non-Hispanic whites (Babb et al., 2020; Trinidad et al., 2011). Therefore, the specific smoking behaviors and smoking cessation trends found in Latinx groups should be considered when designing smoking cessation interventions so that interventions could better address these needs.

Cultural Adaptation of Health Interventions

Cultural and ethnic minorities have been underrepresented throughout the healthcare field in areas such as the development of cancer clinical trials (Nazha et al., 2019), psychotherapeutic treatments (Meyer & Zane, 2013), and behavioral health interventions (obesity; Haughton et al., 2018). Health interventions that consider the intersectional identity of their subjects tend to accrue better outcomes (Barrera et al., 2013). A cultural adaptation, or tailoring, of any given health intervention, involves modifying the design, content, language, or other components of the assigned intervention to better align with the cultural contexts of the subjects (Torres-Ruiz et al., 2018). For example, in tobacco cessation, past research has suggested that interventions would benefit from centering interventions on a group's cultural values (Brugge et al., 2002; Kim et al., 2015).

Despite these findings, the research on the effectiveness of culturally adapted tobacco cessation interventions is mixed. For instance, Nierkens and colleagues (2013) conducted a systematic review of the literature to understand the efficacy of culturally-adapted interventions to increase tobacco cessation, diet, and physical activity. The research team found five studies out of the 17 discovered in which cultural adaptations positively impacted the effectiveness of the intervention. Even though the rest of the studies did not present statistically significant changes to support cultural transformations, some of them did elucidate positive trends to suggest that cultural adaptations worked in some capacity. More importantly, the research team found that interventions incorporating family cultural values were more likely to achieve lasting results (Nierkens et al., 2013). Research in this cultural adaptation of health interventions suggests that there might be some benefits to culturally adapting health interventions.

As mentioned above, Latinxs are the most significant growing minority within the United States. Even though there are vast differences within Latinxs (e.g., country of origin, time since the arrival to the United States, family dynamics), some overarching values influence health behaviors and interventions. Perhaps one of the most studied cultural values within Latinxs is that of familismo. The term refers to the importance of considering kinship networks, immediate or extended (e.g., parents, grandparents, cousins), when making certain decisions (Galanti, 2003). These kinship networks can also be conceptualized as a form of social support people receive throughout their lives (Penwell & Larkin, 2010). Cultural values such as familismo appear in many different areas in Latinx life. However, one key area in which research has highlighted the importance of cultural values is that of health care delivery (Ruiz-Sánchez et al., 2021).

Community Health Workers

The Community Health Worker (CHW) model has been used nationally to address health disparities across groups. CHWs are known members of their communities who focus on promoting health literacy, advocating for individual cases, increasing health care utilization, and promoting health campaigns (Ingram et al., 2008). In the Latinx community, CHWs are usually referred to as promotoras de salud or aliadas de la salud (Health Promoters or Allies of Health). They are lay health workers who work in predominantly Latinx communities (CDC, 2019). Latinxs have remained an underserved group in public health initiatives, given the lack of language and culturally competent health providers (Atkinson et al., 2003). CHWs have a crucial role in bridging health disparities in Latinx communities and providing culturally-relevant health initiatives as many Latinxs do not have access to traditional health care settings (e.g., hospitals; Babb et al., 2020; Dominguez et al., 2015).

These promotoras de salud are the sole provider of health-related advice to some individuals (Kaphingst et al., 2011). Their roles and responsibilities need to be investigated further to address health disparities accurately. Many successful CHW programs have been developed to address health disparities such as chronic diseases, heart diseases, and nutrition (Balcázar et al., 2005; Elder et al., 2005; Hunter et al., 2004; Kaphingst et al., 2011). For example, AMIGAS (FRIENDS), which stands for “Ayudando a Las Mujeres con Información, Guía y Amor para su Salud” (Helping Women with Information, Guide, and Love for their Health), is an outreach intervention program designed for promotoras de salud to increase cervical cancer screening (CDC, 2021b). This program has had great success in promoting health-related information about cervical cancer and increasing cervical cancer screening among Latinx women (CDC, 2021b).

Additionally, training programs have been developed to address tobacco use through CHWs and lay health workers. For example, Muramoto and colleagues (2014) created in-person and online training programs for lay health influencers. These training programs aimed to increase tobacco cessation knowledge, self-efficacy, and the administration of brief interventions (Muramoto et al., 2014). Their findings suggest that both training modalities (e.g., in-person and online) effectively increased tobacco cessation knowledge and self-efficacy of lay health influencers (Muramoto et al., 2014). In addition, the tobacco training also increased the proportion of brief interventions delivered by lay health influencers (Muramoto et al., 2014). Likewise, Martinez-Bristow and their research team (2006) created a training program specifically for Spanish-speaking CHWs to promote confidence in delivering smoking cessation interventions. Their program certified 89 individuals as tobacco cessation counselors and significantly raised self-confidence levels to deliver brief interventions (Martinez-Bristow et al., 2006). Although these findings support the notion that training programs increase confidence and knowledge in providing tobacco cessation services, they do not provide baseline knowledge of the particular needs of CHWs before the training. This baseline knowledge would provide insightful metrics to determine the focus and content of future tobacco cessation training.

Tan and colleagues (*under review*) previously conducted a needs assessment on predominantly English-speaking CHWs. The research team focused on understanding the needs, services, and desired training of CHWs serving populations with low socioeconomic status (SES; Tan et al., *under review*). This study highlighted that confidence and knowledge about tobacco cessation were low among English-speaking CHWs, even when many of them work in tobacco-related areas with their clients/patients. Similarly, findings suggest that CHWs would benefit from tailored tobacco cessation training. The current study aims to build upon this previous work

and explore the knowledge, services and desired training of Spanish-speaking CHWs. Findings from this study will support the development of accurate and accessible tobacco cessation interventions for CHWs who speak different languages and serve diverse groups across the Chicago metropolitan area.

CHW models are also crucial in Latinx communities, based on the literature suggesting that these communities follow a more collectivist organization in which there is a greater emphasis placed on group cohesion (Jason et al., 2018). According to Hernandez-Gordon (2022, p. 334), CHWs in Chicago are essential “to [the] development and implementation of positive community partnerships and actions that undo the effects of years of racism, discrimination, neglect, and avoidable health inequities. CHWs understand the needs of communities of color, which is paramount to successful and cost-efficient interventions”. The Chicago metropolitan area has many Latinx community organizations which employ promotoras de salud to address health behaviors, immigration, and housing problems (Hernandez-Gordon, 2022). This study aims to recognize the importance of CHWs in their communities by conducting a needs assessment to provide them with better tools to develop positively in their positions.

Current Study

The goals of the current study are to explore the tobacco-related services, attitudes, knowledge, and needs of Spanish-speaking CHWs. Previous findings suggest that CHWs serving low SES populations have relatively low knowledge and confidence when dealing with tobacco cessation with clients/patients. This study hypothesizes that results from this work will also portray a low knowledge and confidence related to tobacco among Spanish-speaking CHWs. This study will also shed light on the needs CHWs face when helping individuals who use tobacco and provide a baseline for future development of tobacco cessation training for these

CHWs. Additionally, the current study aims to understand the differences in needs between Spanish- and English-speaking samples to better inform future training. It is expected that there will be some differences between the groups in their job characteristics, given how different organizations employ them. The current project aims to understand if cultural adaptations in tobacco cessation training would benefit Spanish-speaking CHWs. These future training would, in turn, provide CHWs with better tools to address smoking in Latinx communities.

Method

Participants

Partnerships were established with Latinx community organizations in the metropolitan area of Chicago through the Comprehensive Cancer Center at the University of Chicago. The Comprehensive Cancer Center outreach team offers CHWs educational modules on several topics related to cancer (e.g., colorectal cancer). The goal of these educational modules is to increase knowledge of cancer-related issues. The CHWs who participated in this study work in Latinx community organizations in the metropolitan area of Chicago and predominantly assist Latinx individuals in matters related to their health. A total of 40 Spanish-speaking CHWs were recruited during the Fall of 2021 through one of these educational modules dedicated to lung cancer and overall tobacco knowledge, which was delivered in Spanish. All of the CHWs who participated in the scheduled lung cancer educational module spoke Spanish and predominantly served Latinx communities. Eleven participants were excluded from further analyses because they did not complete the survey (i.e., participants opened the survey link but did not answer any questions), leaving a final sample of 29 CHWs. The average age of the final sample (N=29) was 45.9 (SD=8.35), ranging from 26 to 63 years old. This study received approval from the Institutional Review Board at the University of Chicago before the start of the study.

Procedure

The Comprehensive Cancer Center outreach team connected with Latinx organizations in Chicago and organized three educational sessions related to tobacco use in which data collection took place. All educational sessions were conducted virtually over Zoom, given the current COVID-19 pandemic. As mentioned above, these educational sessions aimed to provide CHWs with more knowledge on cancer-related areas. The CHWs were invited to complete a 15 to 20-minute online Qualtrics® survey before attending the educational module or during the scheduled session. Regardless of when they completed the survey, all participations received a gift card as an appreciation of their time. The educational sessions would start with a greeting from the research team, followed by the agenda for the session. The sessions were organized so that those who had not completed the survey beforehand would have time to complete it at the start of the session. After the initial greeting, CHWs were presented with an anonymous Qualtrics'® survey link which first included an informed consent document. After reading and completing the informed consent, CHWs completed a questionnaire. Then, the online educational module session reviewed a detailed overview of tobacco and lung cancer topics. Additionally, participants had the chance to discuss issues they found interesting from the survey before finishing the educational modules.

Measures

A 50-question survey was translated to Spanish and adapted for a Latinx sample based on a needs assessment in English developed by our research group for assessing needs in CHWs serving low SES communities (Tan et al., *under review*). Two native-Spanish-speaking research assistants translated and back-translated the original needs assessment into the Spanish version of the measure. Previous findings suggest that Latinxs use lower NRTs when attempting to quit

than non-Hispanic whites (Babb et al., 2020; Trinidad et al., 2011). Therefore, two questions were added to the Spanish version of the survey inquiring about clients/patients' probability of using NRTs and the reasons behind use to understand differences in NRTs usage. Likewise, immigration was added as an option to describe the services provided by Spanish-speaking CHWs, given how immigration has been reported as a significant stressor in Latinx populations (Sternberg et al., 2016).

Throughout the survey, participants were asked to respond to statements about their experiences as CHWs either in multiple-choice questions, table response selections, true or false statements, and free-response options (i.e., participants wrote their responses). In multiple-choice questions, participants were presented with one initial statement (e.g., "What is your primary role/job title?") and multiple options that they could choose from (e.g., "Community health worker," "Health educator"). Some multiple-choice questions included the descriptor "(please check all that apply)," which allowed participants to select more than one choice. Table response questions presented participants with an initial statement (e.g., "Which health issues do you address with your clients/patients?") and a table matrix with several options to consider in the first column (e.g., "Tobacco use/nicotine dependence," "Illicit drug use or dependence") and different responses to consider in the following columns (e.g., "I address directly," "I refer them to other," "I do not address this"; see Appendix A). True or false statements asked participants to consider an initial statement (e.g., "A majority of smokers make multiple quit attempts before successfully quitting") and evaluate it as either true or false. Free response options were included to allow participants to elaborate beyond the options that were included in multiple-choice questions (e.g., "Other [please specify]"). Additionally, some statements (e.g., "How long have you worked in your current position?") were followed only by a free-response option. The

survey was divided into the following sections: Job characteristics, tobacco cessation practices, client characteristics, tobacco cessation practices and attitudes, a tobacco knowledge questionnaire, desired skills and training, and participant characteristics.

The job characteristics section comprised the initial twelve questions and focused on understanding more about the roles of the CHWs. The questions in this section included inquiring about the CHWs' primary role, the type of facility they work in, the kind of services they offer (e.g., "What is your primary role/job title?", "Do you work in the following type of facility?"). Moreover, the tobacco cessation practices section was designed to assess attitudes towards or the specific use of tobacco cessation practices among CHWs and the tobacco usage among their clients/patients. The eight questions in this section explored topics such as how many times CHWs inquire about tobacco use and the helpfulness of certain tobacco cessation practices (e.g., "Do you ask each of your clients/patients if he/she uses tobacco at their initial visit?", "What factors most likely motivates them [clients/patients] to quit tobacco?"). This section included the two new questions explicitly aimed at understanding NRTs in Latinxs. These questions focused on understanding the number of clients/patients that would use NRTs if offered and the reasons behind possible low use of NRTs (e.g., "How many of your clients/patients would use Nicotine Replacement Therapies [gum, patch, pill, inhaler, nasal spray] if they were offered to them?", "If you think that few of your clients/patients would use such therapies, do you think this lack of use would be related to any of the following reasons?").

The following section was the client characteristics part of the survey, which aimed to explore the experiences of the clients/patients. The four questions in this section assessed the circumstances (e.g., homelessness, domestic violence), racial/ethnic group, sexual orientation, and age range of the clients/patients. The following section was the tobacco knowledge

questionnaire. The ten-question tobacco knowledge questionnaire was included to evaluate general knowledge about tobacco cessation (See Appendix A). CHWs had to choose among the answers for the correct choice in each question. This tobacco knowledge questionnaire has previously been used to assess CHWs' overall knowledge of tobacco and tobacco cessation practices (Tan et al., *under review*).

Lastly, the final two sections of the needs assessment included the desired skills and training and demographic information of the CHWs. The desired skills and training part focused on discerning what training these CHWs are receiving and their preferred format for future training (e.g., length, time of the day, price). The last four questions of the survey compromised the CHWs' demographic information, including their age, gender orientation, education background, and race/ethnicity.

Analysis

Quantitative data were analyzed using SAS analytical software version 9.4. Descriptive statistics were performed to portray the roles of CHWs and their beliefs and attitudes concerning tobacco, smoking, and tobacco cessation. For all sections, except the tobacco knowledge questionnaire, multiple-choice responses and table selections were coded by giving each answer a value. For example, question number one asks participants, “What is your primary role/job title?” and is accompanied by five responses “Community health worker,” “Health educator,” “Registered respiratory therapist,” “Registered nurse,” and “Other (please specify).” In this question, each of the responses would receive a numeric value (e.g., “Community health worker” = 1, “Health educator” = 2), which would then be used to calculate a frequency distribution for the particular question. In table selection questions, the option in the first column was evaluated individually. In other words, table selection questions (e.g., “Which health issues do you address

with your clients/patients? [please check all that apply]”) received a frequency distribution for each option in the first column (e.g., “Tobacco use/nicotine dependence,” “Illicit drug use or dependence”) depending on the option selected in the subsequent columns (e.g., “I address directly,” “I refer them to other”). Frequency tables and percentages were conducted for specific questions in each section to highlight the most selected responses among the group. Questions portrayed in this study highlight the most relevant trends related to the roles of CHWs, tobacco services and knowledge, and their preferences for future training.

Each question had one correct answer in the tobacco knowledge questionnaire, which accounted for one point. For example, question 26 asked participants, “About what percentage of the general population of adults in the U.S. currently smoke?” participants could select one option among four answers “5%, 15%, 25%, 40%”. In this example, participants would receive one point if they selected “15%” and no points for the other responses. Two questions in the questionnaire prompted participants to select all the options that apply to the question. In these cases, participants would only receive a correct point if they could identify all the correct responses. The scores from each question were aggregated to achieve a composite score for every participant (e.g., five out of ten). Lastly, the scores from all the CHWs were averaged to provide an overall score for the group.

Furthermore, descriptive trends from this study were compared with previous results from a needs assessment with predominantly English-speaking CHWs to highlight differences. This comparison is not meant to establish a hierarchy among CHW groups or the quality of their services (i.e., implying that one CHW group is the model and the other should follow its practices). Instead, contrasting results would better inform training development to address specific group themes accurately. The English-speaking group comprised 23 CHWs. Specific

trends from this sample of English-speaking CHWs can be reviewed in the research by Tan and colleagues (*under review*). These results represent descriptive statistics and do not account for further tests that would detect statistically significant differences between the groups. Lastly, an independent samples t-test was conducted between the averages from both groups on the tobacco knowledge questionnaire to discern statistical knowledge differences.

Results

Demographic Information

Most of the CHWs (96.6%) self-identified as women, with one participant self-identifying as a transwoman (3.4%). Table 1 highlights the educational background of the CHWs, with “High School” being the most selected completed educational attainment (37.9%), followed by “University Degree”, “Bachelor's or Equivalent” (20.7%), and “Elementary School or Partial High School” (13.79%). Additionally, all of the CHWs self-identified as Hispanic or Latinx.

Table 1

Highest Level of Completed Education (n=29)

Education Degree	Frequency	Percentage
Never Attended School	0	0
Elementary School or Partial High School	4	13.8
High School	11	37.9
Some College	1	3.4
Business or Technical Training	3	10.3

Associate Degree	2	6.9
University Degree, Bachelor or Equivalent	6	20.7
Post-Graduate Degree	2	6.9

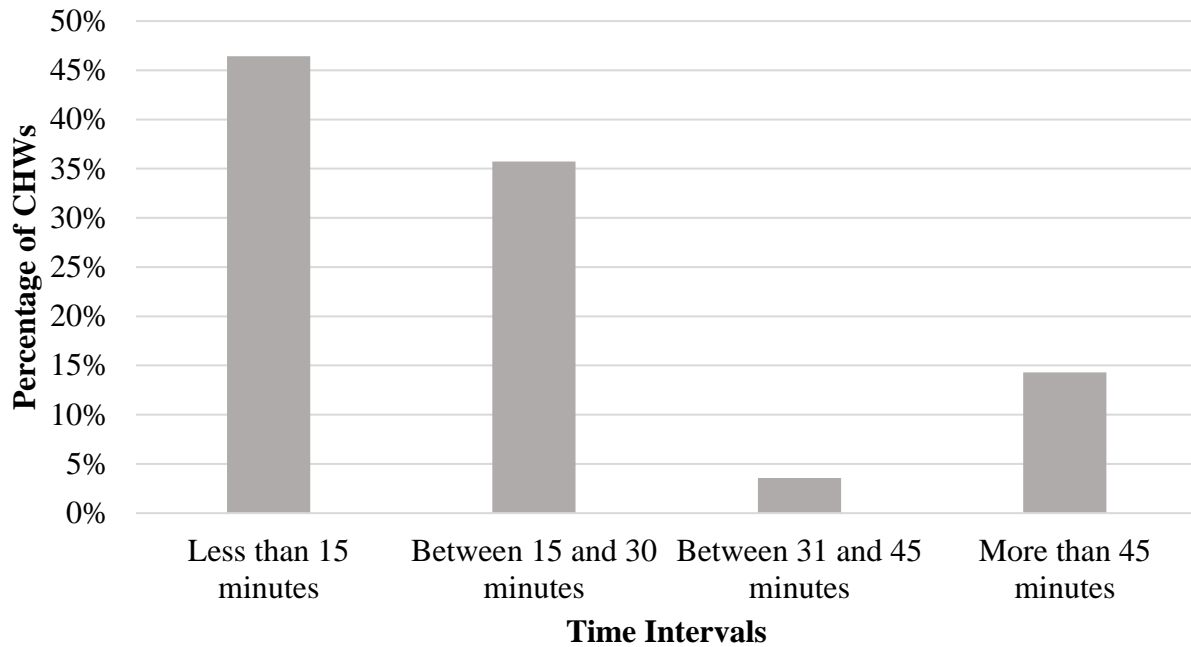
Job Characteristics

The survey's job characteristics section aimed to elucidate CHWs' responsibilities in their encounters with clients/patients. Most of the CHWs (67%) reported working within a "Community Organization". Workplaces besides a community organization included "Clinics" (10.3%), "Other" places (e.g., churches; 17.24%), and "Federally Qualified Health Centers" (3.4%). Approximately, 28% volunteer, 55% work part-time, and only 17% worked full-time within their positions.

Figure 1 portrays the self-reported average time CHWs spend with their clients/patients. More than three-quarters of the participants (79.3%) reported spending somewhere below thirty minutes in each encounter with their clients/patients. One participant did not report the average time they spend with their clients/patients.

Figure 1

Self-Reported Average Time Spent with Clients/Patients (n=28)

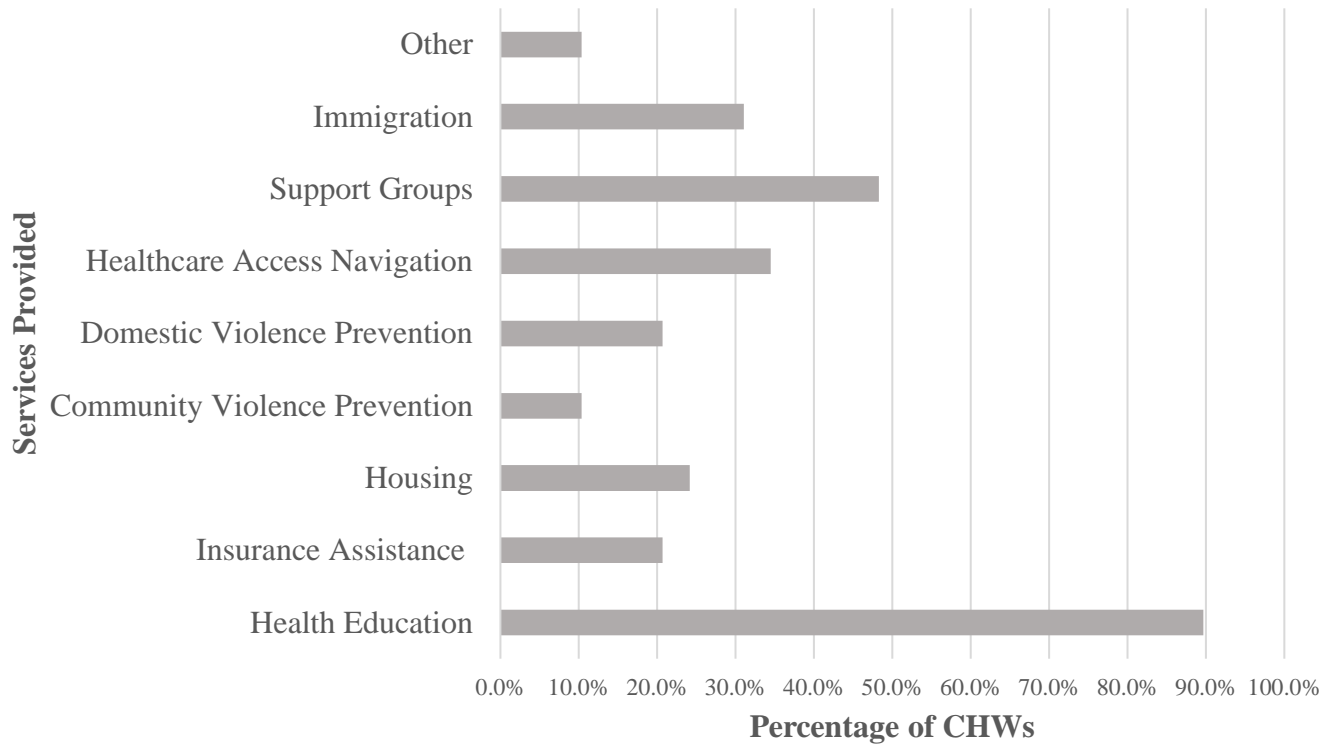


Note. CHWs = Community Health Workers.

Likewise, CHWs reported that they offer an array of services including Health Education, Support Groups, Health Care Access Navigation, and Support with Immigration Services among others (see Figure 2).

Figure 2

Services Provided by CHWs (n=29)



Note. CHWs = Community Health Workers. Participants were able to select more than one choice.

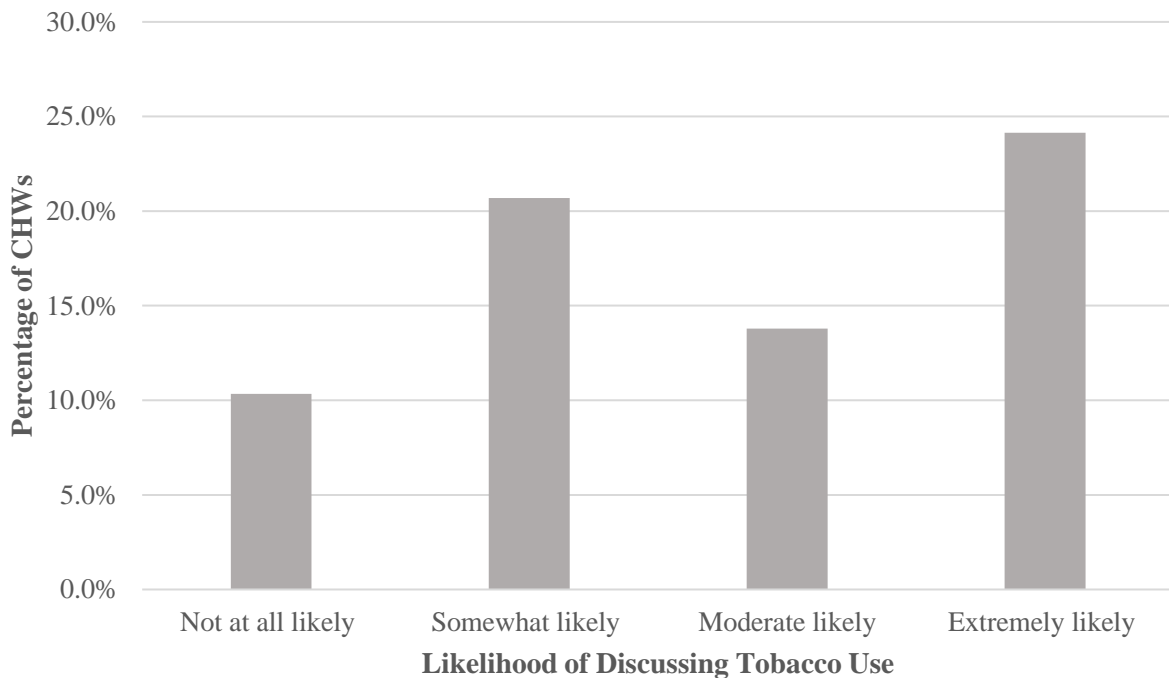
Tobacco Cessation Practices

The Tobacco Cessation Practices section of the survey aimed to understand the behaviors that CHWs take towards tobacco use and their attitudes towards tobacco cessation treatments. When asked about the health issues they address with their clients/patients, tobacco use/ nicotine dependence, in particular, some CHWs (20%) reported “Not Addressing This Issue At All”, others (40%) mentioned that they “Refer Clients/Patients To Other Services”, only one “Directly Addresses This Issue”, and around one third of the sample (36.7%) did not provide a response for the question. From the twenty CHWs who responded when asked about the likelihood that they assess/discuss tobacco use their sessions, the majority of the participants (24.1%) selected “Extremely Likely” followed by “Somewhat Likely” (20.7%), “Moderately Likely” (13.8%), and

“Not at All Likely” (10.3%; see Figure 3). Similarly, when asked about their confidence levels to address this issue (Tobacco/ nicotine use), 31% reported “Not all confident”, 20.7% “Somewhat Confident”, 31% “Moderately Confident”, and 6.9% “Extremely Confident”. In this last question, one person selected “I Do Not Address This Problem”, and two participants did not respond to the question.

Figure 3

Likelihood of Assessing/Discussing Tobacco Use (n=20)

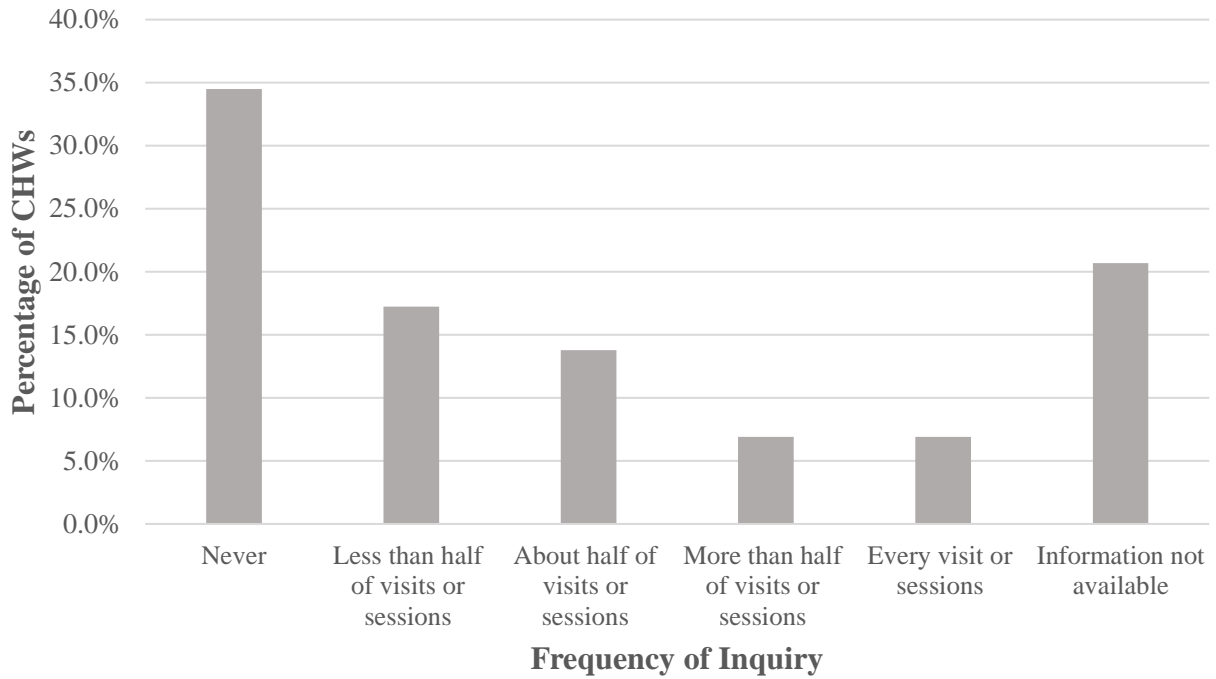


Note. CHWs = Community Health Workers.

About a quarter of the participants (27.6%) indicated that they inquired about their clients/patients’ tobacco use during their initial encounter (i.e., when they first started working together). Also, Figure 4 highlights the frequency that CHWs inquire about tobacco dependence throughout their treatment. Overall, the majority of the CHWs (51.7%) either “Do not ask at all” or ask “Less than half of the visits or sessions” about throughout their treatment.

Figure 4

Frequency of Inquiring About Tobacco/ Nicotine Dependence Throughout Treatment (n=28)

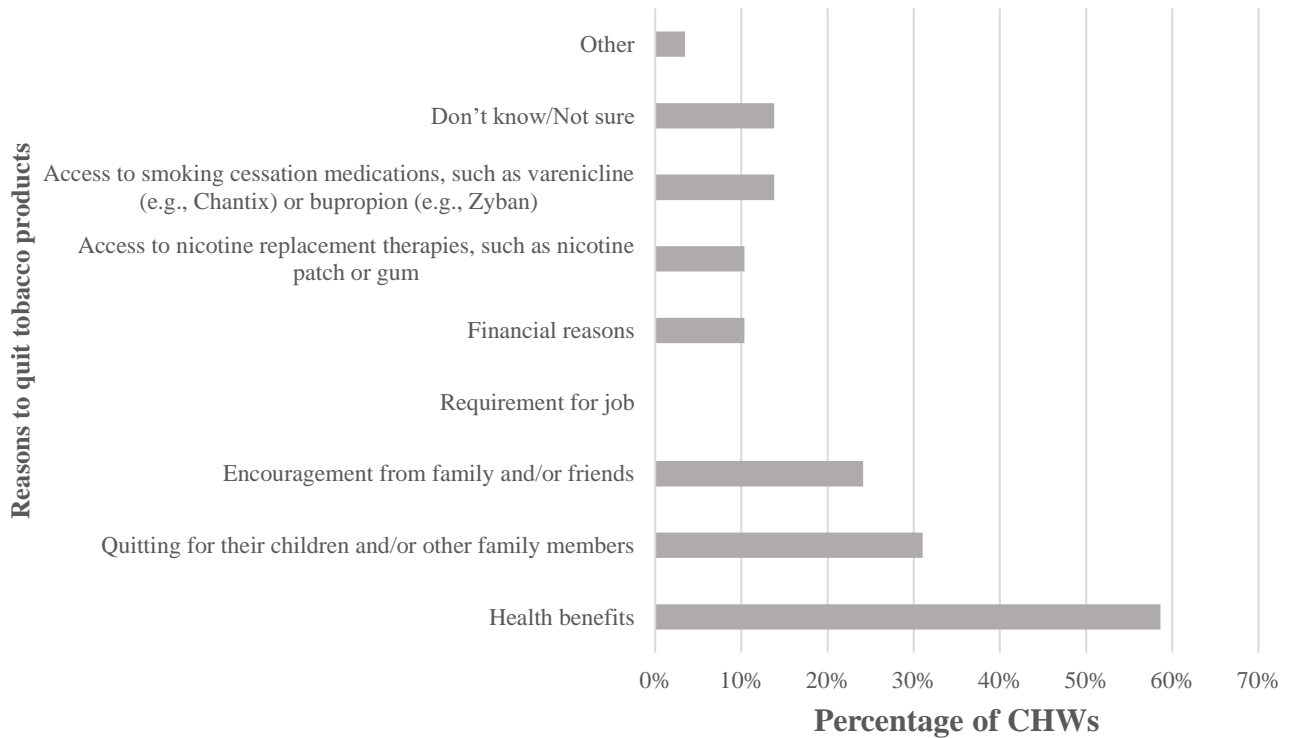


Note. CHWs = Community Health Workers.

There were some mixed responses when CHWs were asked to report “how many of your clients/patients use tobacco products”. Namely, 37.9% of the participants selected “Don’t know/not sure” followed by 27.6% that chose “Some of them”, 20.7% who did not provide an answer, and only 13.8% reported that “None of them” use these products. In addition, CHWs selected “Health benefits” (58.6%), “Quitting for family and friends” (31%), and “Encouragement from family and friends” (24.1%) as the most likely reasons why their clients/patients would want to quit tobacco products (See Figure 5).

Figure 5

Factors Influencing Quitting Tobacco Products (n=21)

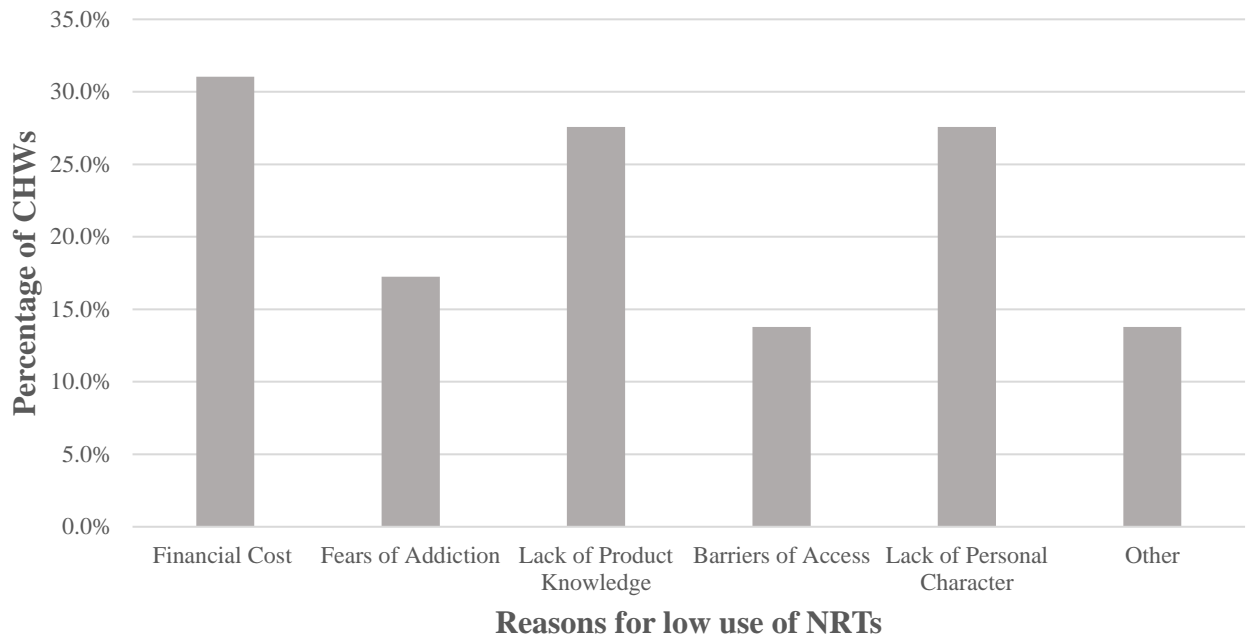


Note. CHWs = Community Health Workers.

When asked if their clients/patients would use NRTs if offered, 20.7% reported that “Some would use them”, and the other 20.7% reported that “Most would use them” from the twenty CHWs that responded to this question. However, 27.6% of the participants were unsure about the possible use of NRTs in their clients/patients (“Not sure/ Do not know”). Additionally, CHWs indicated “Financial cost” (31%), “Lack of product knowledge” (27.6%), and a “Lack of personal character” (e.g., "I have to quit smoking on my own"; 31%) as the major reasons why their clients/patients might not use NRTs (See Figure 6).

Figure 6

Possible Reasons for Low Use of Nicotine Replacement Therapies (n=21)



Note. CHWs = Community Health Workers, NRTs = Nicotine Replacement Therapies.

Patient Characteristics

The patient characteristic section aimed to understand more about the people CHWs serve. Table 2 provides insights into the type of circumstances their clients/patients face in their lives.

Table 2

Client/Patients' Situations Reported by the Community Health Workers

Situations	Frequency	Percent
Mental Health Disorders (<i>n</i> = 24)	5	17.2
Substance Abuse or Dependence (<i>n</i> = 24)	4	13.8
Chronic Illness (<i>n</i> = 25)	14	48.3
Homelessness (<i>n</i> = 24)	3	10.3

Justice System (<i>n</i> = 24)	1	3.4
Domestic Violence (<i>n</i> = 24)	4	13.8
Immigration Problems (<i>n</i> = 24)	13	44.8
Discrimination (<i>n</i> = 24)	9	31

The majority of the CHWs reported seeing clients/patients experiencing “Chronic Illness” (48.3%) and “Immigration Problems” (44.8%), while Homelessness (10.3%) and “Problems with the Justice System” (3.4%) were among the least likely circumstances. Likewise, CHWs reported men over 18 (*n* = 28; 51.7%) as the most likely age group they would encounter in their role, followed by women over 18 (48.3%), families (44.8%), older adults over 65 (17.2%), and children and adolescents (10.3%).

Tobacco Knowledge Questionnaire

Even though many CHWs indicated discussing tobacco use during their sessions, overall tobacco knowledge was low. The scores from the participants ranged from 1 to 6 with an average score of 4.03 out of 10 (*SD*=1.92). It is important to note that only one CHW correctly identified Lesbian, Gay, Bisexual, Transgender, Queer, Intersex, and Asexual (LGBTQIA+) individuals, people living with mental illness, and individuals with low socioeconomic status as at-risk groups of high tobacco use. In addition, only three CHWs could correctly identify all the evidence-based treatments for tobacco cessation (“Nicotine Replacement Therapies [e.g., nicotine gum, patch, lozenge, etc.]”, “Individual, group, or telephone counseling”, “Antidepressants [i.e., bupropion]”, “Varenicline [brand name Chantix]”). All respondents except two correctly identified as “True” the statement “A majority of smokers make multiple quit attempts before successfully quitting”.

Desired Skills and Trainings

In the final section of the survey, respondents explained the topics and kind of training they would like to receive in the future. The majority of the CHWs selected education on tobacco cessation treatments for clients/patients ($n = 29$; 79.3%), followed by local smoking cessation services (51.7%) and NRTs (51.7%) when asked about the type of training they would like to receive. Table 3 provides detailed information on the preferences (e.g., duration, time of day, cost) for a future training. CHWs express a more considerable preference (86.2%) for training within thirty minutes and two hours. Likewise, most of them (48.3%) prefer the evening as a suitable time to receive future training, and the majority (69%) of the CHWs expressed that they would only attend a free training.

Table 3

<i>Format for Future Trainings</i>		
Factors	Frequency	Percentage
Length of Training ($n = 29$)		
Less than 30 minutes	1	3.4
30-45 minutes	8	27.6
1 hour	8	27.6
1.5 hours	2	6.9
2 hours	7	24.1
Greater than 2 hours	3	10.3
Time of Day for Training ($n = 29$)		
Morning, before lunch (8am-12pm)	8	27.6
During lunch (12pm)	2	6.9
Afternoon, after lunch (1pm-5pm)	5	17.2
Evening (after 5pm)	14	48.3
Cost of Training ($n = 29$)		
Yes, I would attend for up to \$25/training	7	24.1

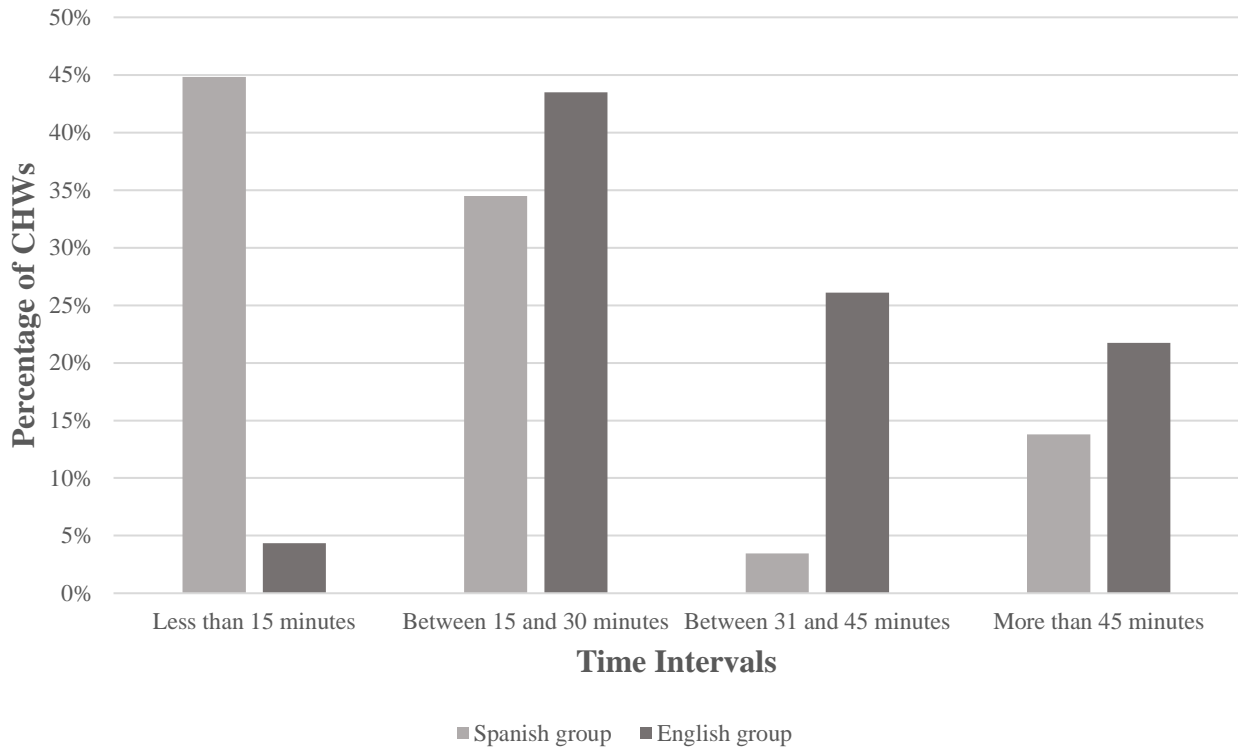
Yes, I would attend for up to \$50/training	1	3.4
Yes, I would attend for up to \$75/training	1	3.4
No, I would only attend trainings with no fee	20	69

Comparison with English-speaking Group

Questions related to job characteristics, time spent with clients/patients, services offered, confidence levels to address tobacco/nicotine use, motivations to quit, and format of future trainings were compared as they would provide key insights into the roles of CHWs and their services in relation to tobacco use among clients/patients. In terms of the type of employment (e.g., full-time, part-time, volunteer), there were some differences among the groups as the majority (91.3%) of the English-speaking group reported a full-time job whereas part-time was the most frequently selected option (55%) among the Spanish-speaking CHWs.

Figure 7

Group Comparison of Time Spent with Clients/Patients

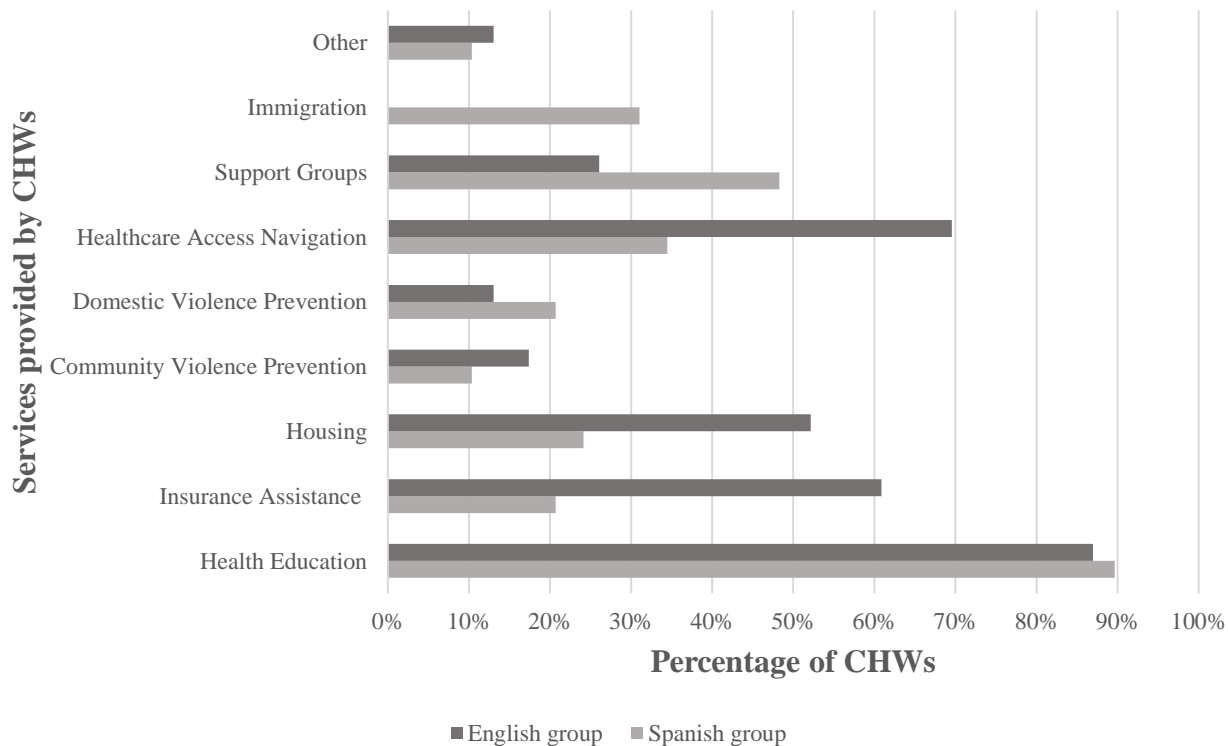


Note. CHWs = Community Health Workers.

Also, there were some differences in terms of the time each group spent with their clients/patients. In particular, it seems that Spanish-speaking CHWs mostly selected seeing the clients/patients “Between 15 and 30 minutes” or less, whereas the English-speaking CHWs predominantly reported seeing their clients/patients “Between 15 and 30 minutes” and beyond (See Figure 7).

Figure 8

Group Comparison of Services Offered to Clients/Patients



Note. CHWs = Community Health Workers. Immigration was not offered as an option in the English-speaking needs assessment.

In both groups providing “Health Education”, “Healthcare Access Navigation”, and “Support Groups” seem important to the responsibilities associated with CHWs (See figure 8). Nevertheless, English-speaking CHWs placed more emphasis on “Healthcare Access Navigation”, “Insurance Assistance”, and “Housing”, while Spanish-speaking CHWs selected “Support Groups” more.

Furthermore, CHWs from both groups were more likely to report moderate and low confidence levels for addressing tobacco use with their clients/patients. In particular, 31% Spanish-speaking CHWs reported being “Not at All Confident” compared to 13% for the English-speaking group; 20.7% reported “Somewhat Confident” in the Spanish-speaking group compared to 13% in the English-speaking one, and 31% chose “Moderately Confident” in the

Spanish-speaking group compared to 39% in the English-speaking sample. Lastly, only 6.9% of the participants in the Spanish-speaking group reported being “Extremely Confident” compared to 8.7%.

Additionally, CHWs reported similar trends when discussing why their clients/patients would most likely quit smoking. In particular, “Health Benefits” was the most selected reason among both groups (58% [Spanish]; 34.7% [English]), followed by “Quitting for their children and family” (31%; 26.1%). The third choice in the Spanish-speaking group was “Encouragement from friends and family” (24.1%). In contrast, in the English-speaking group, “Encouragement from friends and family”, “Financial reasons”, and “Other” reasons were tied (13%) for the third most selected reason.

There was one clear difference among the groups regarding the format for future training they would like to receive (See Table 4). Namely, the time of day in which the training should be conducted varied with the Spanish-speaking group mostly preferring the “Evening (after 5 pm)” while the English-speaking group mostly selecting “During Lunch (noon)”. Likewise, most groups expressed that they would be willing to attend a free training if offered.

Table 4

Group Comparison of Format for Future Trainings

Factors	Percentage Spanish	Percentage English
Time of Day for Training		
Morning, before lunch (8am-12pm)	28	35
During Lunch (12pm)	7	39
Afternoon, after lunch (1pm-5pm)	17	0
Evening (after 5pm)	48	4
Cost of Training		
Yes, I would attend for up to \$25/training	24	17

Yes, I would attend for up to \$50/training	3	0
Yes, I would attend for up to \$75/training	3	0
No, I would only attend trainings with no fee	69	61

Lastly, there was no significant difference between the average scores of the tobacco knowledge questionnaire $t(50) = 0.21, p = .83$, despite the Spanish-speaking group ($M = 4.03, SD = 1.92$) attaining higher scores than the English-speaking group ($M = 3.91, SD = 2.11$).

Discussion

Tobacco use remains the leading preventable cause of sickness, disability, and death in the United States (CDC, 2021a). Disparities exist in tobacco use based on race, sex, and socioeconomic status (National Center for Chronic Disease Prevention and Health Promotion (US) Office on Smoking and Health, 2014). The CHW model has promoted positive health behaviors in various health issues (Ingram et al., 2008). As a result, there is growing interest in understanding the roles and responsibilities that CHWs hold in their positions to develop interventions to enhance or improve their skill. The overarching goal of the present work was to describe the roles of Spanish-speaking CHWs and understand the types of interactions they have with their clients/patients concerning tobacco use. Additionally, this research sought to discern differences among English and Spanish-speaking CHWs to inform better language and cultural adaptations of future curriculum development efforts.

Previous work on CHWs or promotoras de salud (health promoters) in Latinx populations has emphasized sex differentiation in this role such that women are predominantly represented as CHWs (Flores et al., 2017). Our sample supported these findings as most of the CHWs self-

identified as women and one of them as a transwoman. This finding provides further insights into how cultural and gender norms are represented in Latinx healthcare delivery. In Latinx cultural contexts, women are overrepresented in caring and services roles. These roles are heavily influenced by a concept known as *marianismo*, which associates and even promotes women in caregiving roles (e.g., cooking, cleaning; Mendez-Luck & Anthony, 2016). Further research into Latinx CHWs could explore how cultural concepts such as *marianismo* affect the type of services health workers offer. Similarly, future research could particularly explore the experiences of CHWs who hold other gender identities to understand how their experiences might differ.

Additionally, the description of employment (e.g., part-time, full-time) provides some valuable insights into the positions of Latinx CHWs in a large metropolitan area such as Chicago. Even though the role of a CHW is being professionalized throughout healthcare settings (Ingram et al., 2012), CHWs from this study portray that non-fulltime employment predominates in their area. Future research could provide more qualitative insights into why these positions predominantly employ people in non-fulltime situations.

Furthermore, past research by Kruse and colleagues (2017) has explored the variability of tobacco cessation training and found over one hundred individual training programs across 84 countries. The findings from the research team suggest that tobacco cessation training varies greatly depending on the context they are provided (Kruse et al., 2017). This variability in training was supported in a recent review by Ye and colleagues (2018), as they found that tobacco cessation education changed depending on the context of delivery. These findings suggest that tobacco cessation training programs and curriculums are highly changing and should consider the context of the potential receivers. Results from this study provide valuable information on how to specifically structure these training to address the needs of the CHWs. For

example, the Spanish-speaking CHWs highlighted that they see their clients/patients in under thirty minutes for each session which should be taken into consideration as some tobacco cessation training assume that trainees will have more extended structured interactions with their clients/patients (United States Public Health Service Office of the Surgeon General & National Center for Chronic Disease Prevention and Health Promotion Office on Smoking and Health, 2020). Likewise, tobacco use is only one of the subjects that CHWs could potentially discuss during their sessions. The CHWs reported that they provide various services to their population, which highlights the need for future tobacco cessation training to consider time constraints when delivering interventions. For these reasons, future training development should consider the specific type of interactions CHWs have with their clients/patients to accurately accommodate the needs of Spanish-speaking CHWs.

The literature emphasizes that one of the significant roles of CHWs is to promote health literacy and education (Ingram et al., 2008). The results from this study support these findings but also expand on the areas in which CHWs assist their clients/patients. For example, in this sample, many CHWs reported helping with topics related to immigration which might seem beyond the scope of the role in a traditional healthcare model. Nevertheless, this finding supports what other researchers have also found: the roles and responsibilities of CHWs depend on the organizations that employ them (Hartzler et al., 2018). Similarly, immigration is a significant stressor for many Latinxs, affecting their mental and physical well-being (Sternberg et al., 2016). Therefore, it seems pertinent that CHWs in this sample reported immigration services as a significant part of their role. Also, CHWs expressed immigration problems as one of the critical situations when describing the difficulties faced by their clients/patients. These findings

emphasize the importance of considering immigration and its repercussions on clients/patients for the roles of a Spanish-speaking CHW in a metropolitan area such as Chicago.

Previous findings by Tan and colleagues (*under review*) highlighted that English-speaking CHWs who discuss tobacco use during sessions with their clients/patients report low levels of confidence in addressing this issue. Findings from this study portray a similar trend in a Spanish-speaking sample of CHWs. Even though many Spanish-speaking CHWs reported a moderate to high likelihood of discussing tobacco during their sessions, only one of them addressed the problem directly. In addition, most of them reported low confidence levels for addressing this issue. These findings also support the idea that CHWs would benefit from a tobacco cessation intervention, given how many of them discuss this subject with their clients/patients and feel somewhat unprepared to address it directly.

Although many CHWs completed most of the questions from the tobacco knowledge questionnaire, there was high uncertainty and lack of responses when CHWs were asked to identify their clients/patients' tobacco use patterns. These low responses might be influenced by the relatively low levels of knowledge and confidence that CHWs identified before. The latest update to the US Public Health Service Clinical Practice Guideline for Treating Tobacco Use and Dependence (2008) explicitly remarks on the importance of screening for tobacco use in clients to improve tobacco cessation efforts. The CHWs' lack of responses and uncertainty about their clients/patients' tobacco use suggest that these health workers would benefit from tailored tobacco training that would explain the importance of screening for tobacco use. Also, these trends indicate that future tobacco cessation training would benefit from instructing practical ways that CHWs can employ to recognize and screen smoking behaviors.

Past tobacco cessation interventions tailored for Latinx populations have highlighted the importance of families in quitting. For example, the CDC has a video series to promote quitting in Latinxs titled “Tips from former smokers” (2012). This video series focuses on the story of Beatrice, who shares that she stopped smoking predominantly because of her family. Likewise, the National Institute of Health developed a guide for quitting tobacco use specifically for Latinxs (National Heart, Lung, and Blood Institute [NHLBI], 2008). This guide focuses on the repercussions that cigarettes have on family members and places family members as crucial motivators to stop tobacco use (e.g., “The doctor said that my smoking was causing my son to have asthma attacks. He did not have to say it twice. This gave me the willpower to quit smoking.”). Findings from this study reiterate that the second and third most likely reasons for quitting smoking in Latinxs relate to their families and friends. Therefore, in future tobacco cessation training developments for Latinx CHWs, the importance of family and friends should be highlighted to match the cultural values of this group.

The literature suggests that Latinx groups are less likely to use NRTs than non-Hispanic Whites (Babb et al., 2020; Trinidad et al., 2011). In this study, CHWs highlighted some possible answers to understand the difference in the use of NRTs. In particular, respondents highlighted financial concerns, lack of product knowledge, and a lack of personal character for possible differences in usage. These findings are relevant for the future development of tobacco cessation training as they provide particular areas to focus on when giving information about NRTs. Moreover, responses from the tobacco knowledge questionnaire suggest a relatively low knowledge of tobacco in this sample. In particular, only one CHW was able to identify the groups at risk of tobacco use, and only three CHWs could correctly identify all the evidence-based treatments for tobacco cessation. These concepts could receive more attention in future

training, given how some of these CHWs might work with people at-risk of smoking (e.g., individuals with mental health disorders) or could need to explain an evidence-based intervention to a client/patient. Detailed knowledge of these concepts would provide CHWs with more tools to address smoking in the communities they serve.

In addition, CHWs provided valuable information on the type and format of training they would like to receive, which should be considered when developing tobacco cessation training. Specifically, they expressed a want to receive training in areas related to tobacco cessation treatments, smoking cessation services, and NRTs. Likewise, CHWs preferred short (e.g., less than two hours) evening. Similarly, most CHWs expressed that they would be willing to attend training as long as it remained free. Taken together, these findings should inform the content and format of future training to ensure that interventions are accessible to the CHWs' preferences and maximize their engagement with the subjects.

Qualitative comparisons of the descriptive statistics for each CHW group (English-speaking and Spanish-speaking) highlighted some overall trend differences. Namely, the results from the employment type and time spent with clients/patients' questions suggest differences. For example, Spanish-speaking CHWs reported higher levels of part-time employment, whereas full-time employment was the predominant choice among English-Speaking CHWs. Even though some recent findings indicate that Latinx women tend to be underpaid and undervalued in health care settings (Rivera-Núñez et al., 2022), more qualitative and quantitative research would discern why Latinx CHWs in a metropolitan area of Chicago are predominantly employed in a part-time basis. Likewise, descriptive statistics portray some overall differences in each group's time with their clients/patients. The great majority of the Spanish-speaking CHWs reported spending less than thirty minutes with their clients/patients. On the other hand, most of the

English-speaking CHWs reported seeing their clients/patients for thirty minutes and above. Pending further statistical analyses, these findings could signal that time constraints should be carefully considered in future training adaptations for a Spanish-speaking group of CHWs.

As mentioned above, the concept of familismo is highly present within the Latinx culture (Galanti, 2003). Emphasizing ideas of family and friends in future training could be particularly important when considering Latinx groups. Question 18 specifically asked CHWs to think, “what factors most likely motivates them [their clients/patients] to want to quit tobacco?”. A group selecting options related to family and friends would emphasize the importance of familismo to quit smoking. Both groups set “Health Benefits” as the most likely reason their clients/patients would stop. Additionally, options related to family and friends were highly selected in both groups (Spanish-speaking CHWs and English-Speaking CHWs), so the importance of family and friends in quitting was not only present in the Spanish-speaking group. Future studies could qualitatively explore the importance of family and friends in quitting within Latinx and non-Latinx groups to elaborate on the importance of these contexts and explore how they could be used in smoking cessation interventions. In addition, the t-test between the average scores on the tobacco knowledge questionnaire was not statistically significant. Nevertheless, the scores from this tobacco knowledge questionnaire emphasize that CHWs would benefit not only from practical skills (e.g., motivational interviewing training) but also from more content informational material (e.g., groups at risk of smoking, smoking cessation interventions), given how both samples were in the lower half of the ten-point scale (4).

This study contains many limitations. For once, the educational modules and data collection took place virtually over Zoom. There are some concerns that online data collection efforts might be at a disadvantage over those in person (Andrade, 2020). In particular,

carelessness and reduced responses in online data collection could have affected the frequency of responses in this study. In addition, this study involved a 50-question survey, which could deter some participants' engagement and motivation to complete it as they might feel it is too long. Future needs assessment could explore in-person data collection events to maintain participants engaged with the survey portion of the study.

Similarly, many participants completed the initial consent form but did not respond to the rest of the questionnaire. As a result, these participants might have been confused with the initial questions asked and discouraged even to start the study. Future research with CHWs should consider these concerns so that data collection accuracy can be improved. Another limitation is that this study did not conduct statistical testing to discern significant differences between these samples. More rigorous testing could clarify some statistical differences among the samples and provide clearer trends to consider when designing novel training. Likewise, participants from this study were from a limited number of organizations in Chicago which may hinder the applicability of results to other CHWs in other areas of the city or who are not employed in organizations.

Conclusion

This study focused on investigating the role of Spanish-speaking CHWs in a metropolitan area to inform future developments of smoking cessation training. Taken together, this research suggests that Spanish-speaking CHWs have many roles and responsibilities in their communities. Overall, results from this study indicate that Spanish-speaking CHWs would benefit from receiving training about tobacco cessation. The participants highlighted specific ways to format future training in accessible and engaging ways. Additionally, this research informs future training development efforts by highlighting differences between CHW groups in their

employment type, tobacco cessation practices, and preferences for training delivery. This research adds to our understanding of the emerging roles of CHWs and how they could bridge health disparities in areas related to tobacco use.

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Appendix A

Needs Assessment Survey

YOUR JOB CHARACTERISTICS

1. What is your primary role/job title?
 - a. Community health worker
 - b. Health educator
 - c. Registered respiratory therapist
 - d. Registered nurse
 - e. Other (please specify): _____

2. Do you work in the following type of facility? (please check all that apply)
 - Hospital
 - Clinic
 - Federally qualified health center (FQHC)
 - Mental health/behavioral health facility
 - Substance abuse facility
 - University/academic setting
 - Community-based organization
 - Local health department
 - Other (please specify): _____

3. How long have you worked in your current position?
_____ (years) _____ (months)

4. Is your current job a paid position?
 - a. Yes (full-time)
 - b. Yes (part-time)
 - c. No (volunteer)

5. On average, how much time do you spend with each of your clients/patients, face-to face, during each visit or session?
 - a. less than 15 minutes
 - b. 15-30 minutes
 - c. 31-45 minutes
 - d. more than 45 minutes

6. What type of services do you offer within your current position? (please check all that apply)

- Health education/information
- Health insurance enrollment
- Housing
- Community violence prevention
- Domestic violence prevention
- Healthcare access navigation
- Medication management/demonstration
- Support groups
- Case management
- Other (please specify): _____

Please continue to next page.

7. Which health conditions do you address with your clients/patients (i.e., screening and/or management)? (please check all that apply)

	I address directly	I refer them to other services	I do not address this condition
Cardiovascular disease			
Lung cancer			
Cancer (all other types)			
HIV/AIDS			
Diabetes			
Tuberculosis			
Chronic obstructive pulmonary disease (COPD)			
Asthma			
Cystic fibrosis			
Pneumonia			
Pulmonary hypertension			
Other (please specify): _____			

8. Which health issues do you address with your clients/patients? (please check all that apply)

	I address directly	I refer them to other	I do not address this
Tobacco use/nicotine dependence			

Illicit drug use or dependence			
Alcohol use or dependence			
Chronic disease prevention			
Sexual or reproductive health			
Obesity			
Sleep issues			
Behavioral health/mental health			
Accessing health services			
Other (please specify): _____			

9. What is the likelihood that each of the following health behavior problems is assessed or discussed during a visit for each client/patient? Please check one response for each problem.

	Not at all Likely	Somewhat Likely	Moderately Likely	Extremely Likely	I do not address this problem
Tobacco use/nicotine dependence					
Illicit drug use/dependence					
Alcohol use/dependence					
Physical inactivity					
Poor diet/nutrition					
Inadequate or poor sleep					
Mood issues (i.e. depression, anxiety)					
Medication management					

10. In what level of detail do you address each health behavior problem with your clients/patients? Please check one response for each problem.

	I only assess the problem	I refer them to other services	I provide education about the problem	I conduct interventions for the problem	I do not address this problem
Tobacco use/nicotine dependence					
Illicit drug use/dependence					

Alcohol use/dependence					
Physical inactivity					
Poor diet/nutrition					
Inadequate or poor sleep					
Mood issues (i.e. depression, anxiety)					
Medication management					

11. What is your confidence to address each of the following health behavior problems?
Please check one response for each problem.

	Not at all Confident	Somewhat Confident	Moderately Confident	Extremely Confident	I do not address this problem
Tobacco use/nicotine dependence					
Illicit drug use/dependence					
Alcohol use/dependence					
Physical inactivity					
Poor diet/nutrition					
Inadequate or poor sleep					
Mood issues (i.e. depression, anxiety)					
Medication management					
Other (please specify): _____					

12. How helpful are each of the following health behavior factors at improving the overall health of your clients/ patients? Please check one response for each factor.

	Not at all Helpful	Somewhat Helpful	Moderately Helpful	Extremely Helpful	Don't know/ Not sure
Quitting tobacco use					
Quitting illicit drug use					
Quitting alcohol use					

Increasing physical activity					
Changing diet					
Improving sleep					
Improving mood or reducing stress					
Medication adherence					
Other (please specify):					

TOBACCO CESSATION PRACTICES

13. Do you ask each of your clients/patients if he/she uses tobacco at their initial visit?

- a. Yes
- b. No

14. How frequently do you ask each of your clients/patients if he/she uses tobacco throughout the course of his/her treatment?

- a. Never
- b. Less than half of visits or sessions
- c. About half of visits or sessions
- d. More than half of visits or sessions
- e. Every visit or session
- f. N/A

15. How many of your clients/patients use tobacco products?

- a. None of them (**please skip to #22 in the “Client/Patient Characteristics” section**)
- b. Some of them
- c. Most of them
- d. All of them
- e. Don’t know/Not sure

16. How frequently do you do the following tasks with your clients/patients who use or have used tobacco products? Please check one response for each task.

	Never	Less than half of visits	About half of visits	More than half of visits	Every visit	N/A
Ask them if they currently are using tobacco products						
Advise them to quit tobacco						

Ask them if they are interested in quitting tobacco						
Provide tobacco cessation advice to them						
Arrange for follow-up visit or phone call about their progress with quitting tobacco						
Refer them to Illinois Tobacco Quitline						

17. How would you describe most of your clients’/patients’ current smoking status?

- a. Current smokers, daily
- b. Current smokers, occasional
- c. Former or ex-smokers
- d. Don’t know/Not sure

18. What factor most likely motivates them to want to quit tobacco? (please check all that apply)

- Health benefits
- Quitting for their children and/or other family members
- Encouragement from family and/or friends
- Requirement for job
- Financial reasons
- Access to nicotine replacement therapies, such as nicotine patch or gum
- Access to smoking cessation medications, such as varenicline (e.g., Chantix) or bupropion (e.g., Zyban)
- Don’t know/Not sure
- Other (please specify): _____

19. How helpful do you think the following strategies are during your clients’/patients’ efforts to quit tobacco? Please check one response for each strategy.

	Not at all Helpful	Somewhat Helpful	Moderately Helpful	Extremely Helpful	Don’t know/ Not sure
Slowly reducing number of cigarettes smoked or tobacco products used each day					
Stopping tobacco use without assistance (“cold-turkey”)					
Nicotine replacement therapy (gum, patch, lozenge, inhaler, nasal spray)					
Electronic cigarettes or vaporizers					

Varenicline (e.g., Chantix) prescription					
Bupropion (e.g., Zyban) prescription					
Illinois Tobacco Quitline counseling					
In-person counseling					
Setting a quit-date					
Other (please specify): _____					

20. How many of your clients/patients would use Nicotine Replacement Therapies (gum, patch, pill, inhaler, nasal spray) if they were offered to them?

- a. No one would use them
- b. Some would use them
- c. Most would use them
- d. Everyone would use them
- e. I am not sure / I do not know

21. If you think that few of your clients/patients would use such therapies, do you think this lack of use would be related to any of the following reasons?

- a. Financial cost
- b. Fear of Addiction
- c. Lack of Knowledge about the products
- d. Barriers of access to such products (For example: the places to buy such products are far or it becomes hard to get access a medical prescription)
- e. Associate these products with a lack of personal character (For example: “I have to quit smoking on my own” or “I do not need external help to stop smoking”)
- f. Other (Please specify) _____

CLIENT/PATIENT CHARACTERISTICS

22. Do you work with the following type of client/patient population in your current position? Please check the appropriate box for each group.

	Yes, this is the group I primarily serve	Yes	No
--	--	-----	----

Individuals with mental health disorders			
Individuals with substance abuse disorders			
Individuals with chronic illnesses			
Individuals experiencing homelessness			
Individuals in the criminal justice system			
Individuals experiencing domestic violence			
Individuals experiencing problems with immigration			
Individuals suffering from discrimination			
Other (please specify): _____			

23. Do you work with the following racial group in your current position? Please check the appropriate box for each group.

	Yes, this is the group I primarily serve	Yes	No
Hispanic, Latino / a or Spanish			
American Indian or Alaska Native			
Asian			
Black or African American			
Middle Eastern or North African			
Native Hawaiian or Pacific Islander			
White			
Other (please specify): _____			

24. How many of your clients/patients identify as sexual and gender minorities (e.g., LGBT individuals)?

- a. None of them
- b. Some of them
- c. Most of them
- d. All of them

e. Don't know/Not sure

25. With whom do you primarily work? (please check all that apply)

- Men (age 18+)
- Women (age 18+)
- Children/Adolescents (under the age of 18)
- Older adults (age 65+)
- Families
- Other (please specify): _____

YOUR TOBACCO KNOWLEDGE

*****Please select the best answer for the following questions. If you are unsure, please make a guess.**

26. About what percentage of the general population of adults in the U.S. currently smoke?

- a. 5%
- b. 15%
- c. 25%
- d. 40%

27. Which groups have higher rates of cigarette smoking in the U.S. compared to the general population? (please check all that apply)

- Women
- LGBT individuals
- Older adults
- Individuals with mental health conditions
- Individuals with low socioeconomic status

28. Roughly what percentage of attempts to quit smoking without assistance are successful?

- a. 1-10%
- b. 30-40%
- c. 60-70%
- d. Greater than 70%

29. A majority of smokers make multiple quit attempts before successfully quitting.

- a. True
- b. False

30. The peak of nicotine withdrawal lasts on average from 2-4 weeks.
- True
 - False
31. Which of the following is NOT a symptom of nicotine withdrawal?
- Increased appetite, hunger, or weight gain
 - Difficulty concentrating
 - Skin irritation
 - Anxiety/nervousness
 - Difficulty sleeping
32. About how much weight, on average, do smokers gain within the first year after quitting?
- None
 - 1-4 pounds
 - 4-10 pounds
 - 10-20 pounds
33. Which of the following is considered an evidence-based treatment for tobacco cessation?
(please check all that apply)
- Nicotine replacement therapy (e.g., nicotine gum, patch, lozenge, etc.)
 - Hypnotherapy
 - Individual, group, or telephone counseling
 - Self-help materials
 - Antidepressants (i.e., bupropion)
 - Varenicline (brand name Chantix)
34. Most adult smokers are interested in quitting.
- True
 - False
35. Brief advice from health care professionals (i.e., 1-3 minutes during a visit or session) increases the likelihood of smokers quitting successfully.
- True
 - False

DESIRED SKILLS AND TRAININGS

36. Does your facility provide trainings, either directly or through another organization/company, about client/patient tobacco addiction or cessation for staff

members?

- a. Yes (please describe): _____
- b. No (**please skip to #36**)
- c. Don't know/Not sure (**please skip to #36**)

36 (a). If yes, how often?

- a. Monthly
- b. Bi-Monthly
- c. Quarterly
- d. Yearly
- e. Other (please describe): _____

36 (b). Are Continuing Education Unit (CEU) or Continuing Medical Education (CME)

credits offered for the training?

- a. Yes (please describe): _____
- b. No
- c. No, but I am interested in obtaining CEU or CME credits for the trainings
- d. Don't know/Not sure

37. Does your facility provide cessation resources and services to staff members who use tobacco?

- a. Yes (please describe): _____
- b. No
- c. Don't know/Not sure

38. For which tobacco-related issues would you like to receive further training in the future? (please check all that apply)

- Education on tobacco cessation treatments for clients
- Tobacco-free homes
- Nicotine replacement therapy
- Tobacco cessation medications
- Local smoking cessation services
- Illinois Tobacco Quitline
- Tobacco control advocacy
- Other (please specify): _____

39. For which other health-related issues would you like to receive further training? (please check all that apply)

- Diet/nutrition
- Physical activity
- Sleep disorders

- Chronic disease prevention
- Screenings for various chronic illnesses (e.g., cancer, cardiovascular disease, etc.)
- Other (please specify): _____

40. If you attended a training on tobacco cessation interventions and treatments, about how long should the training last?

- a. less than 30 minutes
- b. 30-45 minutes
- c. 1 hour
- d. 1.5 hours
- e. 2 hours
- f. Greater than 2 hours

41. If you attended a training on tobacco cessation interventions and treatments, during what time of the day should it take place?

- a. Morning, before lunch (8am-12pm)
- b. During lunch (12pm)
- c. Afternoon, after lunch (1pm-5pm)
- d. Evening (after 5pm)

42. If there was a monetary cost required to attend a training of interest to you, would you attend?

- a. Yes, I would attend for up to \$25/training
- b. Yes, I would attend for up to \$50/training
- c. Yes, I would attend for up to \$75/training
- d. No, I would only attend trainings with no fee

43. If you were providing a tobacco cessation intervention to your clients/patients, how long would you like the intervention to last?

- a. less than 15 min
- b. less than 30 min
- c. 30-45 min
- d. 1 hour

44. Would you like to be contacted by the researchers about future trainings?

- a. Yes
- b. No

45. Would you be interested in participating in a focus group about designing trainings for tobacco cessation (compensation would be provided)?

- a. Yes
- b. No

PLEASE TELL US ABOUT YOURSELF.

46. What is your age?

_____ (years)

47. What is your gender?

- a. Female
- b. Male
- c. Transgender
- d. Other (please specify): _____

48. What is the highest grade or year of school you have completed?

- a. Never attended school or only attended kindergarten
- b. Elementary school or partial high school (please specify which grade) : _____
- c. High school (grade 12 or GED)
- d. Some college (no degree)
- e. Business or technical training
- f. Associate degree
- g. University degree, bachelor level or equivalent
- h. Post-graduate degree

49. Do you consider yourself to be Hispanic, Latino/a, or of Spanish origin?

- a. Yes
- b. No

50. What race(s) do you consider yourself? (please check all that apply)

- American Indian or Alaska Native
- Asian
- Black or African American
- Middle Eastern or North African
- Native Hawaiian or Pacific Islander
- White
- Other (please specify): _____