Impact of a Primary Care Navigation Training for Promotoras de Salud

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Abstract

Background: Promotoras de Salud are especially effective at providing navigational services for ethnic minorities. However, the literature indicates gaps in standardized training methods, curriculum, and evaluation tools of Promotoras in navigation training (Hou & Roberson, 2015; Scott et al., 2018).

Methods: Seven Promotoras de Salud were recruited through snowball sampling to participate in a patient navigation training, and were given resource mapping binders with detailed clinic profiles. The project was a one group pretest/post-test design to measure the effect of a navigation curriculum on Promotoras knowledge, self-efficacy, and satisfaction.

Findings: After a Spanish language primary care navigation education intervention, knowledge increased from the pretest mean of 9 (*SD* = 0.58) to a post-test mean of 9.71 (*SD* = 0.49) out of a total score of 10. Change in total knowledge pre and post-intervention approached significance ($p = 0.059$). There was no statistical significance ($p = 0.116$) between pre- and post-intervention total self-efficacy change scores. Approaching significance results included self-efficacy change score for Promotoras who had experience with coordinating and navigating the healthcare system ($p = 0.057$) and Promotoras with direct health service experience ($p = 0.057$). The mean satisfaction results post-intervention were 32.29 (*SD* = 3.3) out of 35.

Conclusion: Participants were able to reinforce pre-knowledge primary care navigation knowledge and increased their knowledge after a primary care navigation training. Satisfaction was high for a primary care navigation training that included both active and passive learning strategies. Advanced Practice Registered Nurses (APRNs) and Registered Nurses (RN's) are effective as educators and curriculum creators for Promotora trainings. Promotoras in this region are highly knowledgeable and confident in primary care navigation, and meet the need of this

geographical region to navigate Spanish speaking patients towards primary care. Furthermore, the creation of navigation tools such as a resource binder of primary care clinics assists Promotores in guiding patients towards primary health care.

Keywords: community health worker, promotores de salud, promotoras de salud, training, curriculum, education, community health workers/education, health education/methods, patient navigation, health services accessibility, primary care

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Background and Purpose

Of all racial/ethnic groups, Latinos have the second lowest rate of primary care utilization, with only 68.4% of Latinos reported having a Primary Care Provider (PCP) (Agency for Healthcare Research and Quality [AHRQ], 2014). Primary care is essential to all populations to reduce morbidity and mortality and for early detection and treatment of disease (Agency for Healthcare Research and Quality, 2014b; Institute of Medicine, 1996; Starfield, Shi, & Macinko, 2005).Previous efforts to increase Latino's primary care utilization and services have included the use of Community Health Workers (CHW), also known in this community as Promotoras de Salud, or simply Promotoras, who link patients to services (Cosgrove et al., 2014; Scott et al., 2018). Through education and relationship-building, Promotoras navigate Latinos toward health systems, health providers, clinics, and social services. However, the literature indicates gaps identifying standardized training methods, curriculum, and evaluation tools for Promotora navigational training (Hou & Roberson, 2015; Scott et al., 2018). Therefore, the purpose of this project is to measure Promotoras knowledge and self-efficacy before and after a primary care navigation training and their satisfaction with the training.

Promotoras

Promotoras have successfully guided Latinos through the healthcare system in the United States for decades (Cosgrove et al., 2014). Promotoras are trusted members of the Latino community who provide education, peer counseling, advocacy, health navigation, and a limited array of basic direct health services (National Center for Chronic Disease Prevention and Health Promotion, 2015). Promotores are uniquely positioned in the community to overcome the many challenges Latinos face in utilizing primary care. Promotoras fulfill several important roles specified by the Community Health Worker Core Consensus Project (C3 Project) (2018)

including cultural mediation, health education, system navigation, coaching, advocacy, community capacity building, direct services, implementing community assessments, conducting outreach, and participating in research (Balcazar, Alvarado, Cantu, Pedregon, & Fulwood, 2009; Hurtado et al., 2014; Kangovi et al., 2014; Krantz et al., 2017; Spinner & Alvarado, 2012; The National Heart, Lung, 2012)

Promotoras as navigators. A specific role of Promotoras to overcome these barriers includes health navigation. The Health Resources and Services Administration (HRSA, 2007) study of CHWs identifies five models of CHWs including the navigator model, in which the CHW assists individuals and families through the complex health system and increases the client's confidence in interacting with health care providers. The navigator model allows for community members to have increased access to health and primary care education from trusted CHWs (HRSA, 2007). The navigation role is validated by the American Public Health Association's (APHA, 2009) statement on the CHW core roles to "ensur[e] people get services they need." Moreover, the Institute of Medicine (IOM (US) Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health, 2003) recommends the use of Promotores in the Latino community to increase access to health care and act as links between providers and communities, specifically for racial and ethnic minorities. Finally, Scott's et al. (2018) systematic review of CHW programs found that the APHA defined roles are not only aspirational but that CHW in multiple studies are assisting with appropriate utilization of health services and referrals. Patient navigation programs have been found to increase access to a primary care medical home, increase utilization of primary care, increase access to culturally appropriate care and increase access to timely care (Peart, Lewis, Brown, & Russell, 2018; Valaitis et al., 2017). While the role

of the CHW can vary, navigation toward and through the health system is a fundamental function of the CHW.

Training of Promotoras. In order for CHW to be successful in their role they must be adequately trained and supervised (Institute of Medicine (US) Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health, 2003). The APHA (2009) recommends strong initial and continuing CHW education and envisions a standardized and education program. Scott's et al. (2018) review found that training improves CHW knowledge, motivation, job satisfaction, and performance. Furthermore, training can increase CHW's self-efficacy, mastery of task and increase the community's confidence in the CHW. However, there is a dearth of literature on the development and evaluation of this training. Given that health interventions by Promotoras offer a low-cost and effective solution to low primary care utilization for Latinos. Education is the foundational step in having an effective Promotora workforce.

Local Promotora programs

At the local level, a Promotora assessment conducted in 2015 (Moore, Burt, Gonzalez, & Luna) identified approximately 50 trained Latino Promotores who serve the region of Central Virginia with seven Promotores actively involved at that time. Currently the Latino Health Initiative (LHI) has oversight over Promotores education through a program entitled Compañeros Training and Empowerment Program (CTEP) (Morshedi et al., 2018). LHI, is an interdisciplinary program of the University of Virginia which includes students and faculty from the School of Medicine, School of Nursing, and community organizations with the goal of improving the health of the Latino community in the Charlottesville area (Morshedi et al., 2018).

LHI not only strives to contribute to the health and wellbeing of the Latino community, but also has a goal to enhance cultural humility and competency among UVA students and faculty through three programs (Morshedi et al., 2018). The programs include “La Clinical Latina” a collaboration between the Charlottesville Free Clinic and UVA students and faculty to provide bi-monthly, empathetic, culturally competent, and entirely in Spanish primary medical care to the Latino community. Cardiovascular Initiative for Latino Community Health (CVI-LCH) are held weekly to screen for high blood pressure, cardiovascular, and diabetes risk in collaboration with a local Spanish language Catholic parish. Additionally, the CVI-LCH serves as a point for the Latino community to receive guidance in accessing health care. This location is a place where Promotores have the opportunity to function in a multitude of core competencies roles including: providing health education, navigating patients towards health clinics, advocating for their community, providing direct services such as height and weight for BMI calculations, outreach of individuals by presenting during the mass on local activities, and finally cultural mediation by educating individuals about the health services in the community but also educating medical and nursing students (The Community Health Worker Core Consensus (C3) Project, 2018). Finally, the Compañeros Training and Empowerment Program (CTEP), has a goal of partnering UVA medical students with Promotores in continual Promotores education and training including screenings, specific skills, and health care navigation (Morshedi et al., 2018). One of the primary outcomes of the CTEP program is a monthly community health education event entitled, “Tardes de Salud”. Over the last few years these program topics have included cardiovascular health, cervical cancer education, “Stop the Bleed” skills, hands-only CPR, bike safety, sexual assault prevention and safety, and first generation college preparation. CTEP has continued their work of training Promotores through collaborations with other

organizations including Creciendo Juntos, the Women's Initiative, and University of Virginia ESL students to provide advanced education on leadership, public speaking, and English language skills throughout 2019 and early 2020. Despite the robust Promotora de Salud training and programming in this region, there has been little formal evaluation on Promotora navigational skills or capacities.

The Importance of Primary Care in the U.S.

Healthy People 2020. Healthy People 2020 was launched in 2010 with a 10-year national health strategy to improve the lives of Americans by eliminating disparities, achieving health equity, and improving the health of all people (Office of Disease Prevention and Health Promotion, n.d.). The key goals of health access for Healthy People 2020 are divided into three components: coverage, services and timeliness (Office of Disease Prevention and Health Promotion, 2018a). Specifically, health services include having an established primary care provider or facility where one receives ongoing healthcare (Institute of Medicine, 1996; Starfield, 1998,pp.18-19; Starfield & Shi, 2004). Goals for 2020 include 83.9% of the U.S. population having an established primary care provider (PCP), compared to the 2007 national baseline rate of 76.3% (Office of Disease Prevention and Health Promotion, 2018b).

Reasons for poor primary care utilization. The low utilization rate (68.4%) of primary care by Latinos (AHRQ, 2014) is impacted by several factors including health insurance, language barriers, years of schooling, satisfaction with care, cost of healthcare, country of origin, knowledge of U.S. health system and mistrust in the health system (Alcala, Chen, Langellier, Roby, & Ortega, 2017; Beal, Hernandez, & Doty, 2009; Shi et al., 2013; Vargas Bustamante, Chen, Rodriguez, Rizzo, & Ortega, 2010; Vargas Bustamante, Fang, Rizzo, & Ortega, 2009).

Benefits of primary care. Primary care is essential to all populations to reduce morbidity and mortality for early detection and treatment of disease (Agency for Healthcare Research and Quality [AHRQ], 2014b; Institute of Medicine [IOM], 1996; Starfield et al., 2005). Starfield and Shi (2004) describe primary care as having four components: accessibility for new problems, long-term care, comprehensive care, and coordination of care. Regular primary care providers (PCP) allows families and individuals to build meaningful relationships with providers, build trust, improve communication, increase satisfaction with care and reduced disparities (IOM, 1996; Shi et al., 2013). It has been found that having a regular PCP decreases hospitalizations, emergency department use, mortality, morbidity, and healthcare costs (De Maeseneer, De Prins, Gosset, & Heyerick, 2003; Starfield & Shi, 2004; Starfield et al., 2005). Specifically, PCPs are skilled in preventing and screening for diseases such as hypertension, cancer, type 2 diabetes, and myocardial infarctions (AHRQ, 2014b; Little, Wang, Castro, Jiménez, & Rosal, 2014; Starfield et al., 2005). For Latinos, PCPs become all the more important as the leading causes of death include heart disease, unintentional injuries, stroke, and diabetes all of which can be addressed in the primary care setting (Dominguez et al., 2015). With less than 70% of the Latino population having a PCP, efforts must be culturally tailored to reach the Healthy People goal of 83.9% PCP utilization (AHRQ, 2014).

Primary care utilization and social impact. Over a three year period from 2005 to 2008, health disparities among minority communities were responsible for more than 30% of direct medical expenditures in the United States, with indirect health costs estimated at $1.24 trillion (The Joint Center for Political and Economic Studies, 2009). The socioeconomic impact, morbidity, and mortality impact of health disparities in the United States makes primary care utilization among minority communities a national and local priority.

Theoretical Framework

The literature that investigates CHW training primarily focuses on knowledge and there is very little research evaluating their self-efficacy in newly acquired skills and ability to carry them out in the community. With this in mind, the Social Cognitive Theory can serve as a guiding framework to increase navigation knowledge and self-efficacy in among Promotores.

Social Cognitive Theory (SCT) developed by Albert Bandura was first known as the Social Learning Theory in the 1960s but as the theory developed with new key components such as self-efficacy, it became known as SCT (Edberg, 2015). SCT is a theory used in determining the factors for change in human behavior and is composed of the inter-relation between three major constructs that change behavior: individual, environmental and behavioral (A Bandura, 1997; Edberg, 2015) (see Figure 1, for SCT framework).

Individual factors include a person's self-efficacy, behavioral capability, expectations, expectancies, self-control, and emotional coping. *Self-efficacy* is an individual's confidence in their ability to perform a behavior, specifically on "judgement of [their own] personal capability" (Bandura, 1997). *Behavioral capability* is an individual's knowledge and skill of a health behavior. *Expectations* include the individual's beliefs of the cost and benefits of a health behavior, while *expectancies* focus on the individual expecting outcomes to be rewarded. *Self-control* is the individual's ability to control a health behavior change and *emotional coping* is an individual's capacity to deal with emotions including problem solving and stress management (Edberg, 2015).

Environmental factors include vicarious learning, situation, and reinforcement. *Vicarious learning* or modeling is watching the behavior and consequences of others. The *situation* is the environment in which the behavior takes place. *Reinforcement* is the positive and negative

responses to a behavior (Edberg, 2015). Finally, the behavioral construct includes *reciprocal determinism* in which the individual makes changes based on their individual factors and environmental cues, and after receiving a response, changes their behavior to obtain a desired behavior (Edberg, 2015).

The use of this theory is feasible in the development of curriculum and pre-and post-tests. In this project, select factors of the theory were implicitly used in the development of the curriculum and study design, namely behavioral capability, self-efficacy, reinforcement, and reciprocal determinism.

Implication of Theory

A robust literature review indicated that self-efficacy consistently increased after education. SCT was used to inform the development of the educational intervention curriculum delivered to CHW. In a program that seeks to empower its participants with confidence it is important for the curriculum to have strategies that develop self-efficacy. Bandura (1977) states that some of the most influential efficacy is based on personal mastery experiences, especially through repeated success. The process of role playing allows the individual to accurately perform an activity with supervision, apply learned skills, and develop confidence in their ability to perform the task independently. Community health worker curriculums should include a learning strategy of role play to promote self-efficacy. Elements of the SCT can assist an individual to obtains new skills and gain confidence to perform these skills again.

Project Purpose

Promotores have been found to decrease chronic disease outcomes, improve health knowledge, improve health behaviors, and increase access to care (Balcazar et al., 2009; Hurtado et al., 2014; Kangovi et al., 2014; Krantz et al., 2017; Spinner & Alvarado, 2012; The National

Heart Lung Blood Institute, 2012). Specifically, Promotores are capable of navigating patients towards primary care, medical homes, and primary care resources. In order for Promotores to exercise their role effectively they must have appropriate training. Providing educational training for Promotores on primary care navigation is an evidence-based method of improving Promotores knowledge on patient navigation (Braun, Allison, & Tsark, 2008; Calhoun et al., 2010; Moore-Monroy et al., 2013; Shelton et al., 2011; Vines, Hunter, White, & Richmond, 2016; Wiggins, 2010). Additionally, educational programs with navigation components have been shown to increase CHW self-efficacy (Klimmek et al., 2012; Rocque et al., 2017; Wiggins, 2010). This project will add to the limited, current literature, on the methods and curriculum of Promotores education, focused on primary care navigation. Moreover, the project will utilize the social cognitive theory in its curriculum and teaching design.

The guiding questions for this scholarly practice project were: What is the effect of a primary care navigation educational intervention on knowledge and self-efficacy in Latino Promotoras and what is their satisfaction with the curriculum?

The specific aims of this project were to:

1. Measure the change in knowledge in Promotores who complete the primary care navigation educational intervention.
2. Measure the change in self-efficacy in Promotores who complete the primary care navigation educational intervention.
3. Measure the Promotores satisfaction with the primary care navigation educational intervention.

Review of the Literature

Introduction

According to the IOM (2003), Promotoras must be adequately trained and supervised to ensure their success. The APHA (2009) and CDC (National Center for Chronic Disease Prevention and Health Promotion, n.d.) recommend an initial standardized core CHW training based on CHW core competencies. Scott's et al. (2018) review found that training improves CHW knowledge, motivation, job satisfaction, and performance. However, there is a lack of literature describing how Promotores are trained and the development of curriculums (Hou & Roberson, 2015; Moore-Monroy et al., 2013). Furthermore, it is unknown which learning methodologies best facilitate increased knowledge and self-efficacy in Promotoras.

This review addresses the following questions:

- What is currently known about Promotora trainings and the development of Promotora curriculums?
- What learning methodologies are most effective to increase knowledge and self-efficacy among Promotoras?
- What are the learning objectives of primary care navigation trainings?

Methodology

Articles that described, investigated CHW or patient navigator training, and focused on primary medical care were of primary interest. Chronic disease within the scope of practice of primary care include asthma, arthritis, hypertension, migraines, COPD, diabetes, heart disease, cancer, stroke, anxiety, AIDS, advanced care planning or other disease processes that a primary care provider would treat were included in the review of literature. The articles had to focus on the education or training process of CHWs on the navigation process linking patients between

the community and clinic or between two services. The outcome after training was of primary interest and articles navigating patients towards clinical trials were excluded. All levels of evidence were included, including dissertations.

A comprehensive review of electronic databases was utilized including PubMed, CINAHL, Web of Science, ERIC, PsycINFO, and Cochrane. The search strategy was created with an experienced research librarian to ensure a thorough review within each respective database. Year of publication was restricted from 2008 to 2019, articles in the English language, and academic articles were reviewed. The following Boolean phrase was used for PubMed, CINAHL, Web of Science and APA PsycNET: ("Curriculum" OR "education" OR "training" OR "Community Health Workers/education" OR "Health Personnel/education" OR "Education, Professional/methods" OR "Health Education/methods") AND ("Community Health Workers" OR "promator*" OR "promotora" OR "patient navigator" OR "community navigat*" OR "lay health worker" OR "system navigator" OR "personal health navigator" OR "lay navigator" OR "guided care") AND ("patient navigation" OR "link*" OR "health services accessibility" OR "access to care"). Mesh terms were used to enhance the search within PubMed and Cochrane. The Cochrane search was modified by limiting the search terms of the population of community health workers and did not include protocols or clinical trials. Due to the large content in the ERIC database, the search within ERIC was modified by limiting the search terms of the population to community health workers and only searching within the abstract.

Ancestry searching was also employed by scanning the references of retrieved articles for potential articles. The last search for this scoping review was performed on February 20, 2019.

Selection of Articles

Following the completion of the search, all results identified were added to the Mendeley vs. 1.19.3 database for further screening. The search strategy resulted in 520 articles. Exclusion criteria was set to find the most relevant articles for training community health workers in primary care navigation. Exclusion criteria included non-USA studies, non-adults, not focused on community health workers not directly evaluating trainings, not related to primary care, and not navigation focused and not research. The primary author of this project (G.P.S.) screened the articles by title and abstract excluding 226 articles that were not conducted in the United States, 32 articles that did not involve adults, 41 articles that were not about community health workers, patient navigators or lay health workers, 120 articles not pertaining to training methods, 35 articles that did not pertain to primary medical health care, and 4 articles not related to research. Only English language articles published within the last ten years were included. The remaining 62 articles proceeded to the next level for full-text eligibility review.

The full text of the 62 relevant articles was then carefully reviewed. An additional 51 studies were excluded after full-text review; thirty-two articles did not have Promotore trainings as the outcome of interest, three articles did not include a disease process associated with primary medical care, seven were not research articles, and nine articles were excluded for not pertaining to primary care or patient navigation. Thus, the final number of articles included in the current scoping review was eleven, (see Figure 2, for PRISMA flowchart).

The articles were summarized into a tabls by study design and participant characteristics (see Table 1, for literature review summary). In order to better understand the navigation curricula, specific learning interventions and curriculum elements were tracked. Using the matrix method, each paper was reviewed with the following topics: purpose, setting, target groups,

identification and recruitment, role and responsibility, study design, theory/construct, Promotores training design, learning interventions, curriculum elements, and results/outcomes.

The search was widened to include the gray literature from Google Scholar. The gray literature was conducted over four hours on Google Scholar with the same key words. The search was limited by only reviewing articles or reports from a website with a .gov, .edu, .mil, or .org domain name. No articles from the gray literature search were included in the review of literature.

Summary of Literature

Setting and recruitment method. As Hou and Roberson (2015) describe in the systematic review of community health navigators (CHN), there is a difference in recruitment, development, and training of Promotores depending on the work location of the community or clinic. In this scoping review eight articles had a primary location in the community (Bone et al., 2013; Braun et al., 2008; Calhoun et al., 2010; Klimmek et al., 2012; Moore-Monroy et al., 2013; Vines et al., 2016; Wennerstrom et al., 2011; Wiggins, 2010) and three in the clinic setting (Ostroff et al., 2011; Rocque et al., 2017; Shelton et al., 2011). Articles that had CHW focused in the community setting were much more likely to use the community-based participatory research (CBPR) practices (Bone et al., 2013; Braun et al., 2008; Moore-Monroy et al., 2013; Wennerstrom et al., 2011; Wiggins, 2010). CBPR is described as "scientific inquiry conducted in communities in which community members, persons affected by condition or issue under study and other key stakeholders in the community's health have the opportunity to be full participants in each phase of the work: conception-design-conduct-analysis-interpretation-conclusions-communication of results" (Byrd et al., 2012).

Three community-based programs recruited CHW through the community advisory boards developed by the CBPR methodology (Bone et al., 2013; Moore-Monroy et al., 2013; Vines et al., 2016). Additionally, two community based programs recruited based on relationships built with key informants (Braun et al., 2008; Wiggins, 2010), and one program used snowball sampling to recruit within a community setting (Klimmek et al., 2012). In contrast, two clinic-based studies recruited with traditional methods such as flyers and online job boards (Shelton et al., 2011), and one clinic study was able to recruit from a pool of eligible participants (Ostroff et al., 2011). Two articles did not describe their recruitment method (Calhoun et al., 2010; Wennerstrom et al., 2011)

Target disease. The majority of articles focused their training on cancer prevention and screening (Bone et al., 2013; Braun et al., 2008; Calhoun et al., 2010; Klimmek et al., 2012; Moore-Monroy et al., 2013; Ostroff et al., 2011; Shelton et al., 2011; Vines et al., 2016). One article focused on mental health (Wennerstrom et al., 2011), one on advanced care planning (Rocque et al., 2017), and finally one dissertation that focused on a general primary care health curriculum (Wiggins, 2010). The plethora of articles on cancer can be understood by the historical roots of patient navigation in the field of cancer. However, as patient navigation has shown positive results in the cancer field more patient navigation programs are branching into other disease processes such as mental health. Additionally, Peart's (2018) scoping review found that more patient navigator programs are being used to facilitate access to primary care. However, this author only found one dissertation that focused primarily on education of CHW of navigation to primary care, all other articles were focused on a the prevention of a specific disease process.

Theory and constructs. The most common theories in this review included Community Based Participatory Research (CBPR), Social Cognitive Theory and the Adult Learning Theory. CBPR was utilized in six studies (Bone et al., 2013; Braun et al., 2008; Moore-Monroy et al., 2013; Vines et al., 2016; Wennerstrom, Hargrove, Minor, Kirkland, & Shelton, 2015; Wiggins, 2010). Three studies used the Adult Learning Theory to inform the implementation of the curriculum (Braun et al., 2008; Calhoun et al., 2010; Shelton et al., 2011). Calhoun et al., (2010) acknowledges that adults bring a lifetime of experiences, knowledge, and work experiences to the educational experience and are interested in learning about topics that will most directly impact their personal life. The Adult Learning Theory has supplemental elements that can be synergistic with the Social Cognitive Theory (SCT). The SCT was explicitly used as a theoretic framework in two studies (Calhoun et al., 2010; Ostroff et al., 2011). Three studies implied the use of the SCT, but did not explicitly state by evaluating self-efficacy (Klimmek et al., 2012; Rocque et al., 2017; Shelton et al., 2011).

Training duration. Training duration was described in all articles, but was not clarified if it was massed or distributed over time. Some studies mentioned that training occurred over the day but did not quantify the amount of training hours in a day. The majority of articles conducted their training in massed sessions over two to three days or sessions (Bone et al., 2013; Calhoun et al., 2010; Klimmek et al., 2012; Moore-Monroy et al., 2013; Ostroff et al., 2011; Vines et al., 2016; Wennerstrom et al., 2011). Three articles delivered training over an amount of time of three to four months with a total educational hours of 19, 48, and 56 respectively (Braun et al., 2008; Shelton et al., 2011; Wiggins, 2010). Braun (2008) using CBPR methods developed three different training programs that all totaled 48 hours but that were both in amassed and dispersed durations to meet the needs of Hawaiian CHW that are dispersed in different islands. These

included 6 day amassed, 4 and 2 day broken up training, and a three credit independent study community college course.

Training content. Training content was described in all articles. Training content included resource mapping (n=10); confidentiality (n=8); communication (n=8); foundations of CHW or PN (n=7); roles and responsibilities (n=7); disease description (n=7); test and treatment (n=7); patient record keeping (n=6); and motivational interviewing (n=5). Resource mapping and communication were the major training components directly focused on navigation, which all articles had at least one of the two components.

Learning strategy. Learning strategies included both passive and active strategies. Passive strategies were employed to train navigators included lecture (n=11), videos (n=3), demonstration (n=3), written material (n=3), and teleconferencing (n=3). Active learning strategies included role play (n=8), case studies (n=5), discussion (n=6), tours (n=4), web-based learning (n=3), and creation of a resource binder (n=2). Most studies had multi-modal strategies of passive and active learning strategies, only two studies had only passive strategies (Moore-Monroy et al., 2013; Ostroff et al., 2011).

Knowledge. Knowledge increased for CHW and PN participants post training curricula in six studies (Braun et al., 2008; Calhoun et al., 2010; Moore-Monroy et al., 2013; Shelton et al., 2011; Vines et al., 2016; Wiggins, 2010). In Shelton et al.(2011) total knowledge and navigational knowledge was found to be the same after the training program for both lay health workers (LHW) and professional navigators. Wiggins (2011) study comparing popular education and traditional educational methods found that both community health worker groups increased their knowledge despite the educational method used.

Self-efficacy. Only four studies addressed self-efficacy or confidence in their methodology (Klimmek et al., 2012; Rocque et al., 2017; Shelton et al., 2011; Wiggins, 2010). Shelton et al.(2011) did not describe any statistical difference between already high self-efficacy scores between lay health workers (LHW) and professional navigators after training program. Klimmek et al. (2012) reported moderate to high levels of confidence post training in CHW ability to follow the navigation protocol and in their preparation to navigate seniors with cancer. Rocque et al. (2017) found significant increases in self-efficacy in four out five elements from baseline after completing training ($p<0.05$). Furthermore, navigators who were experienced with 10 or more patient encounters had higher self-efficacy scores.

Satisfaction. Only two studies used a standardized satisfaction tool (Klimmek et al., 2012; Shelton et al., 2011). Kimmek et al. (2012) had a unanimous high satisfaction scores on the post-training evaluation. Shelton et al., (2011) did not reveal a difference in satisfaction between LHW and professional navigators post- training. Although there were no standardized satisfaction tools, qualitative themes of increasing the amount of role play or simulation experiences were found in two studies (Bone et al., 2013; Wennerstrom et al., 2011). Additionally, participants found that didactic portions of the training were too long in two of the studies (Bone et al., 2013; Calhoun et al., 2010).

Gaps in the Literature

The gaps found in this review were similar to Hou and Roberson (2015) review finding the overall lack of literature documenting CHW training, use of standardized training, evaluation of the effectiveness of CHW or PN training, and the use of standardized tools. Furthermore, as Promotoras continue to forage new roles as navigators towards primary care, there is a lack of literature regarding training around this specific type of navigation and is still primarily about

cancer navigation. Few studies evaluated self-efficacy despite using the SCT and using role playing methods, self-efficacy evaluation would be an appropriate way to measure the effectiveness of both role playing and the SCT. Finally, within the literature available the study methodology reveals a gap in educational pedagogy in tying together the curriculum, educational intervention, and evaluation together. It is unknown what training methods were used, and if the evaluation methods are appropriate for the way the content was delivered. For example, although role play is consistently used there are no studies that described a standardized evaluation of an effective role play demonstration.

Limitations of Integrative Review

A continual critique of CHW educational studies is the lack of evaluation of the educational outcomes (Kash, May, & Tai-Seale, 2007). In many of the studies the outcomes did not match the stated aims. In Calhoun et al. (2010) the element of role play was extensively described however there was no published outcome of the evaluation of the role play education as it associated to an individual's knowledge or self-efficacy scores. Stronger tools would need to be developed or used when performing simulation to pair them with the knowledge and self-efficacy scores of the individual CHWs. Most studies were pre and posttest surveys with small sizes. Future studies would have stronger study designs making the results more generalizable to the greater population.

Finally, publication bias exists in that studies are more likely to be published with effective results. Much could still be learned from studies with ineffective CHW curriculum and design and should not be limited from publication.

Implications for Nursing

The implication for nursing is to assist in building a curriculum, develop CHW programs and supervise CHWs. In developing a CHW curriculum it is vital to pay attention to the learning

strategy for the implementation of the curriculum. The integration of role play into a curriculum directly aligns with elements of the Social Cognitive Theory. In a program that seeks to empower its participants with confidence it is important for the curriculum to have strategies that develop self-efficacy. Bandura (1977) states that some of the most influential efficacy is based on personal mastery experiences, especially through repeated success. The process of role playing allows the individual to accurately perform an activity with supervision, master the task, and be confident in their ability to perform the task independently. Community health worker curriculums should include a learning strategy of role play in order to promote self-efficacy.

The Social Cognitive Theory is an appropriate theory to evaluate learner's confidence in their acquisition of skills. However, the Adult Learning Theory may offer specific elements in the actual delivery of the education that are especially helpful in teaching adults. These two theories can work together and two studies in this review used both theories to guide their work (Calhoun et al., 2010; Uriarte, Cummings, & Lloyd, 2014).

Additionally, the studies revealed common curricular themes for curriculum development including Confidentiality, Foundations of CHW, Roles and Responsibilities, Barriers to Care, Disease Process, Test and Treatment, Record Keeping, Resource Mapping, and Communication.

Rationale for Project

Knowledge and self-efficacy was found to consistently increase for CHW after education. The Social Cognitive Theory is an appropriate theory for the development of an educational program for CHWs. Elements of the SCT can assist an individual to obtains new skills and gain confidence to perform these skills again.

Method

Project Aims

As previously stated, the guiding question for this scholarly practice project were: What is the effect of a primary care navigation educational intervention on knowledge and self-efficacy in Latino Promotores and their satisfaction with the curriculum?

The specific aims of this project were to:

1. Measure the change in knowledge in Promotores who complete the primary care navigation educational intervention.
2. Measure the change in self-efficacy in Promotores who complete the primary care navigation educational intervention.
3. Measure the Promotores satisfaction with the primary care navigation educational intervention.

Project Design

This was a quasi-experimental study. A pre-test/post-test design was used.

Definition of Terms

Community Health Navigator: A community health worker that has been trained to navigate individuals and families between the community and primary care services.

Community Health Worker: "A frontline public health worker who is a trusted member of and/or has an unusually close understanding of the community served. This trusting relationship enables the worker to serve as a liaison/link/intermediary between health/social services and the community to facilitate access to services and improve the quality and cultural competence of service delivery. CHWs also build individual and community capacity by increasing health knowledge and self-sufficiency through a range of activities such as

outreach, community education, informal counseling, social support and advocacy." (American Public Health Association [APHA], 2009).

Health care access: "timely use of personal health services to achieve the best health outcomes"(Office of Disease Prevention and Health Promotion, 2018a)

Health care services: " array of services that are performed by health care professionals or under their direction for the purpose of promoting, maintaining, or restoring health (IOM, 1996).

Knowledge: is the ability of the learner to memorize, recall, or identify specific information on s specific subject, and encompasses their knowledge of subject-specific skills and algorithms, techniques and methods, and criteria for determining when to use appropriate procedures (Anderson, Krathwohl, & Bloom, 2001).

Latino: "refers to a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin regardless of race" (U.S. Census Bureau, 2011).

Patient Navigation: assists individuals and families through the complex health system by identifying and removing barriers to care, promoting continuity of care, and providing information on health-related programs and services (Health Resources and Services Administration, 2007; Valaitis et al., 2017).

Patient navigator: " trained individual who facilitates timely access to appropriate health care and resources for patients and their families" (Pedersen & Hack, 2010)

Primary care provider: physicians, nurse practitioners, and physician assistants who provide integrated and accessible care for new and long-term problems, comprehensive care, and coordination of care of primary care health problems (Institute of Medicine [IOM], 1996).

Primary care: "Provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community" (IOM, 1996).

Primary care utilization: Utilization rate of primary care services and visits

Promotores/Promotoras de Salud: Used in Mexico, Latin America and Latino communities interchangeably with the term "community health workers" to describe health advocates of the Latino community who have the vocation, time, dedication and experience to assist fellow community members in health and quality of life (Health Resources and Services Administration [HRSA], 2007, p. iv).

Self-efficacy: An individual's confidence in their ability to perform a behavior, specifically on "judgement of personal capability" (Bandura, 1997).

Setting

The targeted region for recruitment of Promotores was South Central Virginia, including the City of Charlottesville, Albemarle County and Nelson county with population totals equaling 170,663 according to the 2018 U.S. Census Bureau population estimates (n.d.). In each county the 2018 Latino population is 5.6%, 5.8%, and 4.3% of the population respectively (U.S. Census Bureau, n.d.). This project was conducted in South Central Virginia among the Latino community. Approximately 9,578 persons of Hispanic ethnicity in 2017 reside in this area (U.S. Census Bureau, n.d.).

The community is served by a 612 bed academic medical center (University of Virginia Health System, 2019) and network of dozens of family and internal medicine clinics associated with the medical center. Notably this geographical region has several safety net clinics including

a free clinic, a total of three federally qualified clinics, with one located in each county, and financial assistance at the academic medical center (HRSA, 2020). Most Latinos live within four to six miles of the academic medical center, in communities both north and south of the center of town (Statistical Atlas, 2018). There is a growing Latino community 16 miles north of the city center that also seeks care at the academic medical center (Statistical Atlas, 2018). There is also a fluctuating Latino migrant farmworker community in Nelson County of nine migrant farm camps (Conway, 2018; Reagan H Thompson, Snyder, Burt, Greiner, & Luna, 2015).

According to a Promotora assessment conducted in 2015 Moore, Burt, Gonzalez, and Luna there were approximately 50 trained Latino Promotores who have been trained in this community with seven Promotores actively involved at that time. The doctoral student is embedded in the community and has relationships with most of the Promotores. From participation with Promotoras in the UVA Latino Health Initiative this researcher has seen an active participation of five to seven participants between 2018-2019 in both continued Promotora training and community services.

This region has a history of Promotores programing since 1991 with Rural Health Outreach Program started by the Blue Ridge Medical Center in Nelson County. Other organizations such as Creciendo Juntos program worked with Promotores in 2007, and the Thomas Jefferson Health District trained Promotores in the mid 2010s (Moore, Burt, Gonzalez, & Luna, 2015b). Additionally, previous research has been conducted in Nelson County with Promotores in 2012 (Reagan Holland Thompson, 2013).

Measures

Questionnaires utilized in this study included a Demographic survey, Self-Efficacy questionnaire, Knowledge test, and Satisfaction questionnaire. The demographic questionnaire

was developed by the PI based on previous patient navigation demographic questions (Calhoun et al., 2010; Klimmek et al., 2012; O'Brien, Squires, Bixby, & Larson, 2009; Ostroff et al., 2011; Shelton et al., 2011); and included questions on gender, age, race, education, years of experience, training location, and skills as a Promotora (see Figure 3, for demographic survey in Spanish and Figure 4, for demographic survey in English). The Self-Efficacy/Behavior Instrument for Objectives of CHAN Training developed by the University of Southern Mississippi was used, modified, and translated with permission to evaluated self-efficacy. It is a 10-question survey, with a five-point Likert scale rating from 1-No Confidence to 5-With Much Confidence (see Figure 5, for Self-Efficacy Instrument in Spanish and Figure 6, for Self-Efficacy Instrument in English). The knowledge questionnaire was developed by the PI based on the curriculum objectives. It is a 10-question questionnaire with yes or no questions (see Figure 7 for Knowledge Survey in Spanish and Figure 8 for Knowledge Survey in English). All answers for the knowledge survey can be found in Figure 9. The satisfaction survey is modified and translated from the Hathaway Family Resource Center Promotores/as Comunitarios Training Program, it is a 10 question, five-point Likert satisfaction survey with ratings from 1- No Satisfaction to 5-Extremely Satisfied and two open ended written responses for a total of 12 questions (see Figure 10 for Satisfaction Survey in Spanish and Figure 11 for Satisfaction Survey in English).

Qualtrics test designs

The Qualtrics tests were designed so that the only way to enter a test was with a participant code. A participant could only enter each test once with the participant code. The participant code was not case sensitive. Questions had a forced response, meaning the participant had to answer the question in order to move to the next question. Some questions had a written

response answer if "other" was selected. Only one question had a response of "Prefer not to answer." The demographic, self-efficacy, and knowledge surveys were all combined into the pre-test in that order. Posttests included self-efficacy, knowledge, and satisfaction in one survey. Participants were not allowed to skip screens or move backward and forwards.

Recruitment

Direct contact with researcher. According to Garcia, Zuniga, and Lagon (2017) one of the most effective methods for recruiting Latino participants is with direct contact by researchers to participants as it aligned with Latino cultural values. Cultural values such as *personalismo* (warm relationships that convey care and acceptance), *simpática* (smooth relationships free of criticism or confrontation, *confianza* (trust), *respeto* (respect especially to the elderly, educated, and people in authority), and *familismo* (emphasis on family) can all be conveyed with a culturally competent researcher directly contacting potential recruits (Garcia et al., 2017).

The PI has developed strong ties in this community which is providing the ability to be in touch with key leaders/stakeholders. Direct contact recruitment through conversation and passing out flyers occurred at Latino Health Initiative (LHI) events including bi-weekly blood pressure screenings a local church and monthly community educational events. Additionally, direct contact with potential recruits was made by obtaining a list of all Promotoras who were trained by the local public health department and making direct phone calls and individual WhatsApp text messages with flyer information. Finally, a message was posted in a WhatsApp group message of Promotores about the ongoing study. All potential participants were given the contact information of the PI for email, phone, or Whats App messaging.

Flyers. Flyers were created in Spanish with information on who is eligible, when and where the study is taking place, and compensation information (see Figure 12). The flyers were at a fifth

grade or lower reading ability and translated with the assistance of a certified medical translator. Flyers were placed in a local church bulletin board with Spanish speaking services and in which LHI has bi-weekly health activities. Flyers were emailed to community partners in the public health department, and placed in a church with active Promotora services. According to Garcia et al. (2017) flyers have not yielded in high turnout, however they are useful to hand to participants and stakeholders when having recruitment conversations.

Community connections. An additional method for recruitment was through personal contact of key stakeholders in the community by letting them know about the study and the ongoing recruitment effort (Garcia et al., 2017). Community partners included Dr. Max Luna, Putnam Ivey, Monica Luna, Reagan Thompson, Thomas Jefferson Health District, UVA Health System, Charlottesville Free Clinic, Neighborhood Health Center, Incarnation Church, and Southwood Community.

Description of the Sample

Participants were recruited from Latino Promotores de Salud in the doctoral student's practice area of Central Virginia. All potential participants had to meet inclusion criteria of: self-identifying as a Promotor de Salud or health educator (see Figure 13). Additionally, snow-ball sampling was employed as participants identified other Promotores for the study. Inclusion criteria included: self-report community health workers and Promotores de Salud and ability to speak Spanish. Exclusion criteria included individuals under the age of 18. A detailed description of participant characteristics is found in Table 2.

Project Description

The educational program was conducted as a one-time session in Spanish from 5:30 PM-9:00 PM. The class content was 3.5 hours in length with 30 minutes allocated for dinner and 20

minutes for each pretest and posttest evaluations. The classroom was a conference room in an educational building at a local university, with enough space for 14 people to sit around a large conference table and a centralized television with audio. This site was chosen based on dialogue with Promotores leaders who have experience driving to this location, parking accessibility, centrality in the city, and the concern for excessive policing in another community center (Compañeros Training and Empowerment Program [CTEP], personal meeting, December 11, 2018). This conversation with Promotores led to selection of this site so it would reduce risk of police encounter to participants while in transport to the site of research and takes into account the unique factors of being Latino in the U.S. during a time of increased ICE presence in the community of research (Sage, Benavides-Vaello, Flores, LaValley, & Martyak, 2018).

On the day of the training intervention, the PI, and study volunteers set up the space and prepared the food. Dinner food was set up by an LHI volunteer and offered to all participants. Participants began to arrive at 5:30pm and were given a navigation training binder. The program started at 6:00pm to allow for all participants to arrive.

The session began with an introduction of the researcher, purpose of the study, explanation of confidentiality and consent information, signing of consent forms, and explanation of curriculum. Confidentiality forms were filled out by all participants. Participants answered a demographic questionnaire, knowledge, and self-efficacy pretests. Permission was granted for the scales by the University of Arizona (see Figure 14, for permission email) All tools were completed on the Qualtrics platform using provided iPad or personal cellphones. Each participant was given a Quick Response (QR) code (see Figure 15, for QR codes) for both the pre and posttests that when scanned with the camera feature of the iPad or phone would take them automatically to the designated test within the Qualtrics platform. Once in the Qualtrics

platform participants used a randomly assigned participant code given to them by the PI to log in to both the pre and posttest. The participant code was randomly assigned and only the predetermined participant codes would allow entry into the test. The use of participant codes allowed for pairing of the pre and post test results to each individual test results. Participants who needed assistance using Qualtrics were assisted in scanning the QR code to enter the Qualtrics platform and using their participant code to begin the test by the PI or study volunteers. Data collection was done on all participants in one sitting on December 5, 2019.

Curriculum. The curriculum content and learning strategies were created by the PI based on the literature review of other patient navigation training modules and using learning modules from Community Health Worker resources (Berthold, Miller, & Avila-Esparza, 2009) (see Figure 16, for class content outline). The curriculum included modules on the roles and skills of Promotoras, Primary Care, Resource Mapping, and Confidentiality which were given to all participants in a resource binder (see Figure 17, for curriculum in Spanish and Figure 18 for curriculum in English). An instructor guide (see Figure 19, for instructor guide) and participant resource binder for each participant were created by the doctoral student. Additionally, the resource binders included clinic profiles on seven clinics in the area that provide primary care (see Figure 20, for clinic profiles). The clinic profiles were created by the doctoral student in partnerships with each clinic. Each clinic was interviewed for all information and provided with the profile drafts for their feedback. The curriculum included a variety of both active and passive learning strategies including self-care practices, videos, written material, lecture, games, resource binder and dynamic discussion. Notably, due to time constraints the role play activity was not able to be completed as previously planned.

Compensation. As incentives for participation and to cover costs of transportation, participants were offered $40 Wal-Mart gift cards. Additionally, all participants were offered a dinner during the training. Gift cards were provided by the UVA Latino Health Initiative and food was self-funded by the doctoral student.

Project Procedures

The project lead completed the following as a part of this scholarly project:

1. Developed relationships with Promotoras through involvement in already occurring community health activities.
2. Met with clinic stakeholders and discuss navigation process for their clinic.
3. Created clinic navigation resource for each primary care clinic.
4. Sent resource guides to clinic stakeholders and obtain edits.
5. Obtained permission and take photos of all relevant clinics.
6. Re-sent resource guides to clinic stakeholders for accuracy of information.
7. Developed primary care navigation curriculum for participants.
8. Developed primary care navigation training guide for instructor.
9. Printed and create resource binders for all participants.
10. Developed or use with permission the demographic questionnaire, knowledge and self-efficacy instruments, and satisfaction survey; obtain face validity or describe psychometrics.
11. Reviewed instruments with content expert.
12. Completed review of the curriculum by project mentor; revise as needed based on this review.
13. Secured IRB approval through SBS.

14. Translated all instruments and curriculum and clinic resource guides with certified medical translator
15. Met with IT and copy instruments into Qualtrics and design QR codes for pre and posttest and individual case numbers for participants.
16. Discussed with Promotora leadership on best date, time, and location for educational intervention and preferred food choices.
17. Secured place via University secretary, date, time for the educational intervention.
18. Developed a consent form and translate into Spanish with certified medical translator.
19. Deployed recruitment strategies for the study.
20. Screened participants for inclusion criteria.
21. Ordered and arranged for pickup of food.
22. Set-up classroom on day of activity, with audiovisual capacities, poster paper, and resource binders.
23. Set-up each iPad with Wi-Fi.
24. Explained confidentiality and consent to participants, and collected signed consents on day of educational intervention.
25. Provided the educational intervention on one day.
26. Collected demographics, pre and post self-efficacy, pre and post knowledge, and satisfaction instruments on day of intervention using Qualtrics.
27. Collaborated with participants on ways to use education in the community and future presentation on project results .
28. Scanned all consent forms into secured cloud based database (Box).
29. Stored all data in secure cloud based database (Box).

30. Conducted statistical analysis.
31. Reported results to University community
32. Reported results and debrief participants and community.

Protection of Human Subjects

The Collaborative Institutional Training Initiative (CITI) training was completed as per the institutions IRB protocol by the PI (see Figure 21, for certificate). Protection of human subjects' oversight was provided by the Social and Behavioral Science Institutional Review Board (SBS-IRB) at the University of Virginia (see Figure 22, for IRB certificate).

The PI in Spanish addressed informed consent by providing oral and written instructions prior to the class that attendance and participation were voluntary. All consent material was provided and explained in Spanish at a 5th grade reading level verbally and in written form. All participants had the opportunity to refuse participation or to leave at any time and would receive compensation regardless of the amount of time spent in the training. Consent form were created in Spanish and translated with the assistance of a certified medical translator (see Figure 21, for consent forms). Consent forms were scanned into the Box portal and the originals shredded and disposed in a medical health information trash can.

In order to protect human subject identity no protected health information was collected. All participants were assigned a study code and codes were stored in the Box and Qualtrics. Ethical factors to consider in this study were specific to the inclusion of Latina women. Sage et al. (2018) describes the importance of researchers noting that experiencing or witnessing political incivility towards the group one is a member of is a form of discrimination and oppression for Latinos. Due to an environment of political incivility there has been a noted decreased in Latino participation in research, social programs, and community programs since

November 2016 (Sage et al., 2018) warranting new approaches to safeguard this population, including the ethical approach for researchers being risk reduction. In order to reduce risk to participants their immigration status was not asked in any questionnaire, this included indirect questions such as social security numbers or citizenship status of family members.

A second risk reduction method, to reduce discrimination to participants was the location of the educational sessions. The education sessions were held in a classroom at the doctoral student's university. This was chosen after communication with Promotores who stated this was a location where there was less policing than other community centers. The community of the study is one in which the police collaborates with ICE to detain suspects or confirmed undocumented immigrants (McKenzie, 2018) and exposes participants to additional risk when traveling via vehicle, especially if a passenger is pulled over without a license (Sage et al., 2018). There were no anticipated risks from participating in the curriculum training. And benefits included continued education.

Data Analysis Plan

Demographic data included a combination of nominal, ordinal and ratio questions. Nominal and ordinal variables were transformed into dichotomous groups to have an appropriate sample size in each group to conduct inferential statistics. Knowledge was evaluated as a continuous variable by assigning 1 point for every correct answer. Both descriptive and inferential statistics were conducted for knowledge. Self-efficacy and satisfaction are Likert-style questions and began as ordinal variables. Self-efficacy and satisfaction were analyzed as continuous variables by calculating the average answer of each participant.

None of the results were normally distributed and failed the assumption for parametric testing. Non-parametric testing was conducted on the demographic, knowledge, self-efficacy, and satisfaction data.

Wilcoxon Signed Rank Test was conducted for non-parametric, paired samples for pre and post knowledge and pre and post self-efficacy results. Assumptions met included the following: random samples, independent observations, a continuous scale dependent variable, and one group of participants measured on the same continuous scale on two different occasions.

The Mann-Whitney U Test was conducted for non-parametric, non-paired samples and met the following assumptions: random samples, independent observations, an independent variable as a categorical variable and a dependent variable on a continuous scale.

The correlation relationship between knowledge, self-efficacy, and satisfaction was tested using Pearson's correlation coefficient test. Assumptions for this non-parametric test included: continuous variables and related pairs.

Validity and reliability was not provided by the authors of the self-efficacy or satisfaction surveys. However, the analysis for the self-efficacy survey found a Cronbach's alpha of 0.942 for both pre and posttests.

Results

This section presents the results of the data analysis, including the quantitative survey results and answers to the open-ended qualitative questions. Data was collected on December 5, 2019. Descriptive and inferential statistics were conducted using SPSS, Version 25. All data was reviewed with an experienced statistician.

Response Rate

Early response rates for recruitment was low, so the date of the intervention was adjusted to December 5, 2019, to allow for more participants. Nine participants were recruited. Two participants arrived late and did not participate in the pre-test surveys; seven completed both the pre and post-surveys. Data analysis was limited to the seven participants for whom there was both a completed pre- and post-test dataset.

Demographics

Demographic data was collected from to the seven participants who completed both pre and post-test data (see Table 2, for demographic data). The sample was 100% female. The mean age of participants was 46 years old with a range between 32 to 67. The majority of participants self-identified as Hispanic, (85.7%) and had completed education below a college degree (85.7%). The gross monthly family income of 71.4% of participants was below $2000/month, 14.3% of participants above $2001/month and 14.3% preferring not to answer. Gross monthly family income includes the total monthly income of all family members. The years of Promotora experience of the participants was 42.9% less than one year and 57.1% more than one year of experience. Of the total sample, 85.7% of participants self-reported having a formal Promotora education. Formal Promotore training locations included 42.9% educated at the Department of Health/Free Clinic, 28.6% at Blue Ridge, and 28.65% with the Latino Health Initiative. All

participants reported being volunteer Promotoras, and 71.4% reported their Promotora hours of activity to be less than 10hrs/month, while 28.6% reported at least 10hr/month of activity. All Promotoras reported serving Hispanic/Latinx patient population.

Promotoras were asked a series of questions about the services which community members requested (see Table 3, for Promotora patient services). Promotoras reported having community members request services on personal health (100%), children's health (85.7%), social services (28.7%), clinic referrals (71.4%), family problems (57.1%), transportation (14.3%), and mental health (57.1%). When asked about specific skills Promotoras had experience with (see Table 4), participants reported having experience with cultural mediation (28.6%), education (71.4%), navigation (42.9%), social services support (57.1%), advocacy (0%), community capacity building (28.6%), direct services (57.1%), community assessment (14.3%), outreach (28.6%), and research (42.9%).

Knowledge

Total knowledge. The pre and post-knowledge survey was created by the author with ten yes or no questions about local primary care navigation. Total scores of the pre-intervention knowledge for participants (n = 7) ranged from 8 to 10 out of 10, with a mean of 9 (SD = 0.58) and post-intervention knowledge scores ranged from 9 to 10 out of 10, with a mean of 9.71 (SD = 0.49). Analysis of the change in pre- and post-interventions found a range of 0 to 2 points out of 10 with a mean change score of 0.71 (SD = 0.76) (see Table 5, for total knowledge scores). A Wilcoxon Signed Rank Test revealed a statistically insignificant increase in knowledge following the training program, z = -1.890, p = 0.059, r = 0.505. The median scores for knowledge pre-test increased from the pre-test (Md = 9) to post-test (Md = 10).

Knowledge and demographics. Change in knowledge scores met non-parametric assumptions to conduct a Mann-Whitney U test to evaluate any difference between demographic variables. Analyses were conducted on groups with a large enough sample (see Table 6, for knowledge results). A Mann Whitney U test revealed no significant difference in the change in knowledge score for those with less than one year of Promotore experience (*Md* = 1) and those with one year or greater Promotore experience (*Md* = 0.5), *U* = 4, *z* = -0.764, *p* =0.629, *r* = 0.289. A Mann Whitney U test revealed no significant difference in the change in knowledge score for those with less than ten hours per month of Promotore activity(*Md* =1) and those with at least ten hours of Promotore activity (*Md* = 0.5), *U* = 4, *z* = -0.418, *p* =0.857, *r* = 0.158.

Knowledge and patient requested services. Analyses were conducted on statistical groups with a sample larger than two. Knowledge scores of Promotoras based on patient requested services (see Table 7, for knowledge and patient services results). A Mann Whitney U test revealed no significant difference in the change in knowledge scores for those with patient request for social service information (*Md* = 1) and those without requests for social service information (*Md* =0), *U* =3, *z* = -0.837, *p* =0.571, *r* = 0.316. A Mann Whitney U test revealed no significant difference in the change in knowledge scores for those with patient request for clinic referral information (*Md* = 1) and those without requests for clinic referral information (*Md* = 0.5), *U* = 4, *z* = -0.418, *p* =0.857, *r* = 0.158. A Mann Whitney U test revealed no significant difference in the change in knowledge score for those with patient request for family problem information (*Md* =0.5) and those without requests for family problem information (*Md* =1), *U* = 4, *z* = -0.764 , *p* =0.629, *r* =0.289. A Mann Whitney U test revealed no significant difference in the change in knowledge score for those with patient request for mental health information (*Md* = 1) and those without requests for mental health information (*Md* = 0.5), *U* = 3, *z* = -1.146, *p* =0.4, *r* = 0.433.

Knowledge and Promotora skills. Analyses were conducted on groups with sample larger than two, for knowledge scores of Promotoras based on their skills (see Table 8). A Mann Whitney U test revealed no significant difference in the change in knowledge scores for Promotoras with cultural mediation skills (*Md* = 0) and those without cultural mediation skills (*Md* = 1.5), *U* =1, *z*=-1.673, *p* =0.19, *r* =0.632. A Mann Whitney U test revealed no significant difference in the change in knowledge scores for Promotoras with education experience (*Md* = 1) and those without education experience (*Md* =1), *U* =4, *z* = -0.418, *p* =0.857, *r* =0.158. A Mann Whitney U test revealed no significant difference in the change in knowledge score for Promotoras with coordination experience (*Md* = 1) and those without coordination experience (*Md* =0), *U* = 5, *z* = -0.382, *p* = 0.857, *r* = 0.144. A Mann Whitney U test revealed no significant difference in the change in knowledge score for Promotoras with social services experience (*Md* = 1) and those without social services experience (*Md* =0.5), *U* = 4, *z* = -0.764, *p* =0.629, *r* =0.289. A Mann Whitney U test revealed no significant difference in the change in knowledge scores for Promotoras with community capacity building experience (*Md* =0.5) and those without community capacity building experience (*Md* =1), *U* = 4, *z* = -0.418, *p* = 0.857, *r* = 0.158. A Mann Whitney U test revealed no significant difference in the change in knowledge score for Promotoras with direct services experiences (*Md* =0) and those without direct services experiences (*Md* =1.5), *U* =6, *z* = 0, *p* =1, *r* = 0. A Mann Whitney U test revealed no significant difference in the change in knowledge score for Promotoras with outreach experience (*Md* = 1) and those without outreach experience (*Md* =0), *U* =1, *z* = -1.673, *p* =0.19, *r* =0.632. A Mann Whitney U test revealed no significant difference in the change in knowledge score for Promotoras with research experience (*Md* = 1) and those without research experience (*Md* =0), *U*=3, *z* = -1.146, *p* =0.4, *r* =0.433.

Knowledge item analysis. An item analysis of the knowledge questions found that the pre-knowledge correct results ranged from 43% to 100% out of 100% correct answers on a ten question test. Only three questions did not have perfect 100% pre-knowledge score. The question "Is the goal of primary care to prevent a disease from happening?" had 71% of participants answer the pre-test correctly and 71% of participants answer the post-test correctly. A McNemar test was conducted on this question and found a p=1. The question "Does the Neighborhood Family Health Center offer clinic and medicine discounts based on a sliding scare regardless of insurance?" had 86% of participants answer the pre-test correctly and 100% of participants answer the post-test correctly. The question "Can you go to the Charlottesville Free Clinic if you are over 65?" had 43% of participants answer the pre-test correctly and 100% of participants answer the post-test correctly. All other questions had all participants answer the question correctly both in the pre-test and post-test (see Table 9, for knowledge item analysis).

Self-Efficacy

The self-efficacy questionnaire used five Likert scale questions with 1 = no confidence (no tengo confianza) to 5 = very confident (con mucha confianza). Total pre-self-efficacy average scores for participants (n = 7) ranged from 2.80 to 4.80 out of 5, mean pre-self-efficacy 3.93 (SD = 0.62) (see Table 5, for total self-efficacy results). Post-intervention self-efficacy averages scores for participants (n =7) ranged from 3.20 to 4.90 with a mean of 4.20 (SD = 0.61). Analysis of the change in pre- and post-interventions found a mean change in score of 0.1 – 0.8 with a mean of 0.31 (SD = 0.48). A Wilcoxon Signed Rank Test revealed a statistically insignificant increase in knowledge following the training program, z = -1.572, p = 0.116, r =0.420. The median scores for knowledge pre-test increased from the pre-test (Md = 4.1) to post-test (Md = 4.4).

Self-Efficacy and demographics. Change in self-efficacy scores met non-parametric assumptions to conduct a Mann-Whitney U test to evaluate any difference between variables. Analyses were conducted on groups with a large enough sample (see Table 10, for self-efficacy and demographic results). A Mann Whitney U test revealed no significant difference in the change in the self-efficacy score for Promotoras with less than one year of experience (Md =0) and those with more than a year of experience (Md =0.4), U = 4, z =-0.707, p =0.629, r =0.267. A Mann Whitney U test revealed no significant difference in the change in the self-efficacy score for Promotoras with less than 10hrs/month of activity (Md = 0.2) and those with 10hrs or more of activity (Md =0.3), U =5, z =0, p =1, r = 0.

Self-efficacy and patient requested services. Change in self-efficacy scores met non-parametric assumptions to conduct a Mann-Whitney U test to evaluate any difference between requested patient services. Analyses were conducted on groups with a large enough sample (see Table 11). A Mann Whitney U test revealed no significant difference in the change in the self-efficacy score for those with patient request for social service information (Md = -0.1) and those without requests for social service information (Md = 0.5), U = 2, z = -1.162 , p = 0.381, r = 0.439. A Mann Whitney U test revealed no significant difference in the change in the self-efficacy score for those with patient request for clinic referral information (Md = 0.5) and those without requests for clinic referral information (Md = -0.2), U = 0, z = -1.936 , p =0.095, r =0.732. A Mann Whitney U test revealed no significant difference in the change in the self-efficacy score for those with patient request for family problem information (Md =0.4) and those without requests for family problem information (Md = 0), U = 4, z =-0.707, p =0.629, r =0.267. A Mann Whitney U test revealed no significant difference in the change in the self-efficacy score

for those with patient request for mental health information (*Md* = 0.5) and those without requests for mental health information (*Md* =0), *U* =2, *z* = -1.414 , *p* =0.229, *r* = 0.534.

Self-efficacy and Promotora skills. Analyses were conducted on groups with a large enough sample for Promotora skills and self-efficacy (see Table 12). A Mann Whitney U exact test was conducted on self-efficacy scores and Promotora skills. A Mann Whitney U test revealed no significant difference in the change in the self-efficacy score for Promotoras with cultural mediation skills (*Md* = 0.3) and those without cultural mediation skills (*Md* =0.2), *U* = 5, *z* =0, *p*=1, *r* =0. A Mann Whitney U test revealed no significant difference in the change in self-efficacy score for Promotoras with education experience (*Md* =0.2) and those without education experience (*Md* = 0.5), *U* = 4, *z* = -0.387, *p* = 0.857, *r* = 0.146. A Mann Whitney U test revealed no significant difference in the change in self-efficacy score for Promotoras with coordination experience (*Md* = 0.8) and those without coordination experience (*Md* = 0.1), *U* = 0, *z* = -2.121, *p* = 0.057, *r* = 0.802. A Mann Whitney U test revealed no significant difference in the change in self-efficacy score for Promotoras with social services experience (*Md* = 0.2) and those without social services experience (*Md* =0.5), *U* = 5, *z* = -0.345, *p* =0.857, *r* = 0.134. A Mann Whitney U test revealed no significant difference in the change in self-efficacy score for Promotoras with community capacity building experience (*Md* =0.7) and those without community capacity building experience (*Md* =0), *U* = 4, *z* = -0.387, *p* = 0.857, *r* = 0.146. A Mann Whitney U test revealed no significant difference in the change in self-efficacy score for Promotoras with direct services experiences (*Md* = 0.3) and those without direct services experiences (*Md* =0.2), *U* = 0, *z* = -2.121, *p* = 0.057, *r* = 0.802. A Mann Whitney U test revealed no significant difference in the change in self-efficacy score for Promotoras with outreach experience (*Md* = 0.7) and those without outreach experience (*Md* = 0.1), *U* = 2, *z* = -1.162, *p* = 0.381, *r* = 0.439. A Mann

Whitney U test revealed no significant difference in the change in self-efficacy score for Promotoras with research experience (*Md* = 0.1) and those without research experience (*Md* = 0.4), *U* = 5, *z* = -0.354 , *p* = 0.857 1, *r* = 0.134.

Self-Efficacy item analysis. An item analysis of self-efficacy questions found that the average pre-self-efficacy scores to range from 3.43 - 4.57 (see Table 13, for self-efficacy item analysis). Post self-efficacy scores ranged from 3.71 - 4.71. The change in pre and post self-efficacy scores ranged from -1.4 - 0.71 points. No question had a statistically significant change between pre and posttest.

Satisfaction

The satisfaction questionnaire used five Likert questions from 1 = not satisfied (no satisfecho) to 5 = extremely satisfied (extemadamente satisfecho). Only seven out of twelve questions from the original survey were included in statistical analysis. The question about role play (juego de roles) was excluded from statistical analysis as this activity was not conducted during the intervention. The survey also included two additional questions written by the project lead and two open ended qualitative responses. The mean satisfaction results post-intervention were 32.3 (*SD* = 3.3) out of 35 (see Table 5, for total satisfaction results).

Satisfaction and Demographics. Satisfaction scores met non-parametric assumptions to conduct a Mann-Whitney U test to evaluate any difference between variables. Analyses were conducted on groups with a large enough sample (see Table 14, for satisfaction results). A Mann Whitney U test revealed no significant difference in the self-efficacy change in score for Promotoras with less than one year of experience (*Md* =34) and those with more than a year of experience (*Md* =33), *U* = 6, *z* = 0, *p* =1, *r* = 0. A Mann Whitney U test revealed no significant difference in the

self-efficacy change in score for Promotoras with less than 10hrs/month of activity (*Md* = 34) and those with 10 hours or more of activity (*Md* =33), *U* =4.5, *z* = -0.197, *p* =0.857, *r* = 0.074.

Satisfaction and Patient Requested Services. Satisfaction scores met non-parametric assumptions to conduct a Mann-Whitney U test to evaluate any difference between patient requested services. Analyses were conducted on groups with a large enough sample (see Table 15, for satisfaction and patient requested services). A Mann Whitney U test revealed no significant difference in the satisfaction scores for those with patient request for social service information (*Md* =30.5) and those without requests for social service information (*Md* = 34), *U* = 4.5 , *z* = -0.197 , *p* = 0.857, *r* = 0.074. A Mann Whitney U test revealed no significant difference in the satisfaction scores for those with patient request for clinic referral information (*Md* = 34) and those without requests for clinic referral information (*Md* = 30), *U* = 2.5, *z* = -0.986, *p*=0.381, *r* =0.373. A Mann Whitney U test revealed no significant difference in the satisfaction scores for those with patient request for family problem information (*Md* =33) and those without requests for family problem information (*Md* = 34), *U* = 6, *z* =0, *p* =1, *r* =0. A Mann Whitney U test revealed no significant difference in the satisfaction scores for those with patient request for mental health information (*Md* = 34.5) and those without requests for mental health information (*Md* =32), *U* =2.5, *z* = -1.26 , *p* =0.229, *r* = 0.476.

Satisfaction and Promotora Skills. Satisfaction scores met non-parametric assumptions to conduct a Mann-Whitney U test to evaluate any difference between patient requested services. Analyses were conducted on groups with a large enough sample (see Table 16, for satisfaction and Promotora skills). A Mann Whitney U test revealed no significant difference in the change in satisfaction score for Promotoras with cultural mediation skills (*Md* = 30.5) and those without cultural mediation skills (*Md* =34), *U* = 4.5 , *z* = -0.197, *p* =0.857, *r* = 0.074. A Mann Whitney U

test revealed no significant difference in the change in satisfaction score for Promotoras with education experience (*Md* =32) and those without education experience (*Md* = 34.5), *U* = 2 , *z*=1.183 , *p* = 0.381, *r* = 0.447. A Mann Whitney U test revealed no significant difference in the change in satisfaction score for Promotoras with coordination experience (*Md* = 32) and those without coordination experience (*Md* =34), *U* = 5.5, *z* = -0.18, *p* = 0.857, *r* = 0.068. A Mann Whitney U test revealed no significant difference in the change in satisfaction score for Promotoras with social services experience (*Md* = 34) and those without social services experience (*Md* =32), *U* =4.5, *z* = -0.54, *p* =0.629, *r* =0.204. A Mann Whitney U test revealed no significant difference in the change in satisfaction score for Promotoras with community capacity building experience (*Md* =32) and those without community capacity building experience (*Md*=34), *U* = 3.5, *z* = -0.592, *p* = 0.571, *r* = 0.224. A Mann Whitney U test revealed no significant difference in the change in satisfaction score for Promotoras with direct services experiences (*Md* = 33.5) and those without direct services experiences (*Md* =34), *U* = 4, *z* =-0.72, *p* = 0.629, *r* = 0.272. A Mann Whitney U test revealed no significant difference in the change in satisfaction score for Promotoras with outreach experience (*Md* =31) and those without outreach experience (*Md* = 34), *U* = 2 , *z* = -1.183, *p* = 0.381, *r* = 0.447. A Mann Whitney U test revealed no significant difference in the change in satisfaction score for Promotoras with research experience (*Md* = 34) and those without research experience (*Md* = 33.5), *U* = 5 , *z* = -0.36 , *p*=0.857, *r* = 0.136.

Satisfaction Item Analysis. An item analysis of each satisfaction was conducted (see Table 17). The average score out of 5 for each question included themes 4.57 (SD= 0.54), information presented 4.71 (SD= 0.49), audiovisuals 4.71 (SD= 0.49), brochures and pamphlets 4.71 (SD= 0.49), class duration 4.57 (SD= 0.54), time for participation 4.57 (SD= 0.79), learning during

class 4.43 (SD= 0.79), culturally competent 4.57 (SD= 0.79), helpful training for your community 4.57 (SD= 0.79).

Qualitative Satisfaction Results. Qualitative information in the form of two open ended questions were obtained through the patient satisfaction questionnaire. Responses associated with the most effective parts of the program translated into English included "learning about the opportunities that there are in our community", "places for medical care" "specific information", "everything was very effective and productive", "information about health and resources", "the detailed description of each clinic and the map [activity]", "everything was excellent to help other people, everything was very effective", "everything we saw was very effective for me" and "everything was phenomenal" (see Table 18, for complete feedback responses). The only negative feedback included "not having enough time".

Correlations

Pearson's correlation was conducted to evaluate the relationship between self-efficacy, knowledge, and satisfaction (see Table 19). The relationship between self-efficacy and knowledge was investigated using Pearson's correlation coefficient. There was a statistically insignificant, small positive correlation between the two variable $r=0.15$, $n=7$, $p <0.749$. The relationship between self-efficacy and satisfaction was investigated using Pearson's correlation coefficient. There was a statistically insignificant, medium positive correlation between the two variable $r=0.414$, $n=7$, $p <0.356$. Finally, the relationship between satisfaction and knowledge was investigated using Pearson's correlation coefficient. There was a statistically insignificant, small positive correlation between the two variable $r=0.238$, $n=7$, $p <0.607$.

Discussion

Promotoras de Salud are integral to navigating Latino patients towards primary care. However, for Promotoras to be successful in their role they must have adequately training and supervision (IOM, 2003). There is a lack of primary care navigation training for Promotoras or research on the outcome of these training (Hou & Roberson, 2015; Moore-Monroy et al., 2013). The purpose of this scholarly project was to measure the change in knowledge, self-efficacy, and total satisfaction after implementing a Spanish-language primary care navigation training for Promotoras. The key findings of this study include: no statistically significant change in total knowledge nor statistically significant change in total self-efficacy post-intervention. Despite the lack of statistically significant results, both post-knowledge and post-self-efficacy scores increased from the pre-test to post-test.

There was statistically significant increase post-intervention in self-efficacy for Promotoras who had experience coordinating and navigating the health system ($p = 0.034$) and direct health services experiences ($p = 0.034$). Additionally, Promotoras who had patients ask for assistance with obtaining information on clinics or provider services, had approaching significant change in self-efficacy after the intervention ($p = 0.053$).

This project contributes to the literature on training Promotoras in primary care navigation with specific data on knowledge and self-efficacy. Furthermore, the project contributes to the local community with a Spanish language primary care curriculum for Promotoras and a resource guide of primary care clinic profiles in the local region,

Sample

The seven participants who completed both pre and post-tests were included in the data analysis. The sample size was within the range of active Promotoras in this region (Moore et al.,

2015b). Demographics for this project include a mostly homogenous group of Hispanic women, between the ages of 30-70, with less than university education. Most Promotoras practiced in a volunteer capacity for 10 hrs. or less a month. The greatest variability was within the Promotoras experience years, with three participants having less than one year, and four Promotoras having one year or greater experience. Overall, this sample is consistent with the literature in training majority female, community health workers between the ages of 25-55. This sample was inconsistent with the primary care navigation literature in that it was primarily volunteer, Hispanic Promotoras de Salud with less than a college education.

Implications

Knowledge implications. Change in total knowledge pre and post-intervention approached significance ($p = 0.059$) (see Table 5). This was an expected result from the literature, as other similar studies increased total knowledge after education (Braun et al., 2008; Calhoun et al., 2010; Shelton et al., 2011; Vines et al., 2016; Wiggins, 2010). However, change in knowledge scores based on demographics were not statistically significant. Possible reasons for the lack of statistical significance in change of knowledge by demographic groups include a small sample size during the allotted recruitment timeframe and a homogenous sample. Additionally, there was a noted high pre-intervention mean knowledge score resulting in a ceiling effect to the possible knowledge change score (see Table 6). Participants had a higher than expected pre-knowledge score of primary care navigation. Research implication for high pre-knowledge scores allow for future studies to modify the knowledge survey with more difficult questions. It can also be implied, that high pre-knowledge scores showed that this intervention was a re-enforcement of known information, which is a best practice for community health worker education.

Additional implications from the knowledge findings include: APRN and RNs as effective educators and curriculum creators for CHW or Promotora trainings. Policy implications are relevant to recent legislative changes to the Code of Virginia requiring CHW's to be certified and educated by an entity approved by the Virginia Board of Health (Certified community health workers, 2020). This bill will increase the need for CHW educators and training curriculums, especially curriculums that are bi-lingual and culturally competent. Furthermore, it will warrant an increased need for workforce development funding.

Self-Efficacy implications. Average self-efficacy scores increased from a pre-test mean of 3.93 (*SD* =0.62) to a post-test mean of 4.24 (*SD* = 0.61) out of 5.This was an expected result from the literature, as other similar studies also increased total self-efficacy after education (Klimmek et al., 2012; Rocque et al., 2017). However, the change in self-efficacy score was not statistically significant ($p = 0.116$) (see Table 5). Nonetheless, self-efficacy change scores were approaching significance for Promotoras who had experience in coordination of care ($p = 0.057$). and direct services experience ($p = 0.057$) compared to those who did not (see Table 12). Self-efficacy change scores for Promotoras who had experience with patients asking them for help with referrals to doctors or clinics approached significance ($p = 0.095$) (see Table 11).

These results can be appreciated in the context of research showing a relationship between increased self-efficacy and higher patient encounters (Rocque et al., 2017). Promotoras with navigational experiences may have been able to benefit the most from this training by using their past experiences to guide their learning needs during the training. Bandura's Social Cognitive theory claims self-efficacy should increase as knowledge increases, especially with personal mastery experiences (Bandura, 1977). The lack of statistical significance for total self-efficacy could be attributed to a small sample size, or a ceiling effect of high pre-self-efficacy

scores (M = 3.93) (see Table 5). There is also the possibility of participants over-estimating their self-efficacy.

Promotoras have high self-efficacy in providing patients with primary care navigation information and should have an increased role in both clinics and community. Educational implications include the integration of educational methods, such as role play to increase self-efficacy (Bandura, 1977). Research implications include the continued study of primary care navigation self-efficacy in Spanish-speaking Promotoras.

Implication of Promotora skills. Promotoras with experience in coordination of care (p =0.057) and direct services (p = 0.057) as well as Promotoras with the experience of patients asking them about doctors and clinics (p = 0.095) had approaching significance change in self-efficacy compared to those without these specific experiences. Reasons for the increase in self-efficacy could be attributed to Promotoras who had experience with coordination and navigation of care were more accurately aware of their navigational strengths and weaknesses influencing their pre-self-efficacy scores and their engagement with the training. Individuals who did not have experience with patient navigation or coordination, could have over-estimated pre-self-efficacy scores. A similar logic can explain the change in self-efficacy score approaching significance (p = 0.095) for Promotoras who had experience with patients asking for referrals to doctors or clinic. Those without this experience did not have a change in their self-efficacy score. Finally, a surprising result was that for Promotoras who had experience in providing direct services such as height and weight, there was an approaching significant increase in self-efficacy (see Table 12).

Increases in self-efficacy were expected as Bandura (1986) states that with more experience self-efficacy increases. Specifically, Promotoras with experience in patient coordination, navigation, and referrals had increased self-efficacy after primary care navigation

training. The relationship between Promotora experience and higher self-efficacy underscores the importance of fostering and supporting Promotora opportunities to deliver their skills to the community as a way to enhance their self-efficacy.

Research implications include evaluating the change in self-efficacy for Promotoras with no, low, and high numbers of primary care navigation encounters. It would be expected that Promotoras with a high amount of patient encounters would have higher self-efficacy scores than those with no patient encounters.

Satisfaction Implications. There was a high satisfaction level following this intervention with a total satisfaction mean score of 32.29 out of 35 (see Table 5). This was an expected finding as compared to the literature on satisfaction with Promotora education (Klimmek et al., 2012). Spanish language and Promotora specific learning methods could attribute to high satisfaction levels, as some of the feedback included satisfaction with "the detailed description of each clinic and the map [activity]", (see Table 17, for feedback responses). Although satisfaction was not statistically correlated to knowledge or self-efficacy this could be due to low sample size and time allotted for recruitment (see Table 19). Educational significance includes the continuation and repetition of high satisfaction primary care trainings and repetition of the specific elements most participants enjoyed. Research implications include evaluating the satisfaction of Promotoras after patient experiences with primary care navigation.

Correlation Findings

There was no correlation between change in knowledge, self-efficacy nor satisfaction, despite the theorized relationship between knowledge and self-efficacy (see Table 19). This was an unexpected result as the Social Cognitive Theory would claim that self-efficacy should

increase with increased knowledge. It is likely that with a greater sample size a statistically significant correlation would be identified.

Spanish language

While it is not statistically significant both knowledge and self-efficacy scores for this sample increased with a Spanish language primary care navigation curriculum. Educational implications, include the creation of Spanish or bi-lingual curriculum for Spanish speaking Promotoras. The educational intervention showed that with a Spanish language curriculum that Promotora knowledge increased regardless of: level of education, Promotora skill, or years of experience.

Many Promotora or CHW training programs in the U.S. imply that all participants have full command of the English language. By not providing education in other languages, large subgroups of an important healthcare workforce is excluded from educational opportunities for improved knowledge and self-efficacy. For example, a paid college level CHW course was offered locally to eleven Promotoras including all project participants. Only one Promotora had a high enough English proficiency to participate.

Educating Promotoras in their primary language would seem to be an undeniable factor for healthcare education however, language continues to be a large barrier for the Latino Promotores de Salud. Without bi-lingual curriculums Spanish-speaking Promotores continue to be excluded from educational opportunities.

Research implications include the continued research of knowledge and self-efficacy using Spanish-language primary care navigation curriculums for Spanish-speaking Promotoras. Additionally, there continues to be a need for Promotora specific, validated research tools in Spanish.

Further Research

Promotoras will continue to be an integral part of the primary care setting. Researching the most effective educational methods and including topics such as primary care navigation will be key to ensuring Promotora success in the clinic setting. Further project designs could include a comparison of Promotoras with a second study population of other health professionals such as RNs, APRNs, MD's, social workers, teachers, and community organizers as other studies have previously done (Braun et al., 2008; Shelton et al., 2011). A second project design, could include Promotoras logging each primary care navigation patient encounter over six months and measuring patients primary care utilization post-encounter. A third project design includes repeating the knowledge and self-efficacy questionnaire six and twelve months following the educational intervention after they have had the opportunity to use the primary care navigation materials shared in this project. Finally, there continues to be a need for additional research on the educational methods, outcomes, and cost-benefit of Promotoras in the community and clinic setting.

Nursing Implications

Although this project's primary target population is Promotoras there are practice implications for both RN's and APRN's. These include, but are not limited to supervisor, educator, learner and researcher. The National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP) CHW policy report had strong evidence of high public health impact and high quality for CHW's to practice under the supervision of a healthcare professional such as a nurse practitioner (National Center for Chronic Disease Prevention and Health Promotion, n.d.). Bone's (2013) case study found that bi-monthly meetings with individual CHW's to be a positive way to build the interprofessional team. Furthermore, the Community Health Worker

Core Consensus Project (C3 Project) has developed a toolkit for CHW supervisors for assessing CHW skills and fostering professional development (Allen, C., J.N. Brownstein, M. Cole, 2018). This includes tools for assessing CHW skills, interviewing, hiring, supervisor self-assessment tool, CHW self-assessment tool, and an orientation checklist.

This project demonstrates that nurses are well situation to be educators of Promotoras. Additionally the NCCDPHP (n.d.) has strong recommendations for a standardized CHW curriculum. APRN's and RN's can strengthen interprofessional skills by co-learning from Promotoras on caring for ethnic and racial minorities. Paulo Freire's (2018) foundational work on popular education encourages teachers and students to co-learn from each other in a reciprocal manner by encouraging students to share their lived experiences. Nursing and the entire healthcare team has the opportunity to learn from the lived experience of Promotoras to gain new insight and skills into caring for ethnic and racial minorities (Cosgrove et al., 2014; McElmurry et al., 2009).

Finally, there continues to be a need for additional research on the education, outcomes, and cost-benefit of Promotoras in community and clinic settings. Much of this work is being done by doctoral prepared nurses such as by Thompson's (2015) work on Promotoras and migrant workers in South Central Virginia..

Socio-Ecological Framework and Implications

By evaluating the outcomes within a socio-ecological framework, the implication of this project go beyond the individual level of Promotoras change in knowledge, self-efficacy, and knowledge. The implications extent to interpersonal, organizational, community, and policy levels (Edberg, 2015).

Interpersonal. This project has implications for Latinx community members to have increased primary care navigation knowledge as they interact with Promotoras. Community members could also have increased self-efficacy to utilize primary care resources and satisfaction with the primary care navigation process. Furthermore, patient interactions can increase the authority Promotoras have in their respective communities.

Organizational. Organizationally, this project shows the potential for health care systems to hire Promotoras. This sample of Promotoras are highly confident and have high knowledge of primary care navigation. Despite this, the majority of this sample function in a volunteer capacity for ten hours or less each month and make an annual family salary of $24,00 or less. In this geographical region there is an unused and highly skilled labor force of Spanish-speaking Promotoras. This labor force is highly knowledgeable and confident in primary care navigation and meets the healthcare access need of this region to navigate Spanish speaking patients towards primary care. Specifically, this project aligns with the local health department goal to "increase health equity and narrow the gap for health conditions through outreach and education to healthcare providers and community members" (Thomas Jefferson Health District [TJHD], 2016, p.25). The local health department has specific strategies for this region to "explore best practices to ensure a medical home for everyone" and to "create a healthcare workforce that reflects the diversity of the community" (TJHD, 2016, p.25). Not only does this project provide education to a diverse healthcare workforce but the education is focused on finding a primary care medical home for the Latinx community. However, the Promotora work force currently lives below the poverty level and are not working in paid Promotore positions. The implication for healthcare organizations in this region includes utilizing the currently trained and competent labor force in jobs that utilize their skills of primary care navigation and language fluency. It is a

moral imperative for these jobs to be above the federal poverty line with the complete benefits of all other healthcare system employees. Not only will Promotore jobs alleviates poverty in our region but provide a much needed skill to the community while offering a cost saving mechanism to the healthcare system. CHW programs have been shown to be cost effective in decreasing multiple 30-day readmissions, and increase posthospital primary care (Kangovi et al., 2014). Specifically with chronic diseases such as diabetes CHW have been found to be cost-effective with one study finding an incremental cost-effectiveness ratio (ICER) of $24,500 per quality-adjusted life year (QALY) gained when compared with standard care over a 30 year period (Brown et al., 2012).

Policy. Policy implications include grants and other financial incentives funding for workforce development of Promotoras. Evidence suggests that grants could lead to a broader reach of CHW's and enhancement of existing interventions (National Center for Chronic Disease Prevention and Health Promotion, n.d.). Additionally, current policy changes require CHW's to be certified in the Commonwealth of Virginia, warranting an increase in educators, and training curriculums (Certified community health workers, 2020). These trainings should be bi-lingual and culturally competent to support the needs of this population.

Strengths

This project adds to the limited research of Promotora training on knowledge and self-efficacy (Moore-Monroy et al., 2013). This project assessed both knowledge and self-efficacy as parts of the Social Cognitive Theory. The use of a theoretical framework to guide interventions and outcomes is a strength of the project. This project integrated successful study design elements from the literature including having the training occur in a single day instead of over multiple days (Bone et al., 2013; Calhoun et al., 2010; Klimmek et al., 2012; Moore-Monroy et

al., 2013; Ostroff et al., 2011; Vines et al., 2016; Wennerstrom et al., 2011). Both passive learning strategies such as lecture and active learning strategies such were utilized. The training content included information on the topics of resource mapping and confidentiality which were included in similar studies. Finally, this project reached a population that has been excluded in much of research including volunteer, Hispanic Promotoras with less than a college education. Furthermore, by provided all education and materials in Spanish this project was able to reach a population that is usually excluded due to language.

Limitations

Community-based. The weaknesses of this study design include the lack of a comprehensive community-based participatory research (CBPR) methods as used by a majority of other similar studies (Bone et al., 2013; Braun et al., 2008; Moore-Monroy et al., 2013; Vines et al., 2016; Wennerstrom et al., 2011; Wiggins, 2010). CBPR was addressed by including Promotoras in the discussion of what content was to be taught in the learning intervention, what day, time, and location for the intervention, and what type of food to be served. This project however, did not have a community advisor board as recommended by CBPR practices.

Study Location and Time. This study was limited by the timeframe of three months for both completing recruitment and the project intervention. This study was limited by the geographical region of Central Virginia having a small population of homogenous Promotores that were eligible for this study. Conducting the study over a longer period of time and with a larger geographical region would allow for a larger and more varied sample.

Study Design. The project design is limited by several factors. A quasi-experimental, pre-posttest design with a short period of time between testing was used to determine the effect of the educational intervention on knowledge and self-efficacy. Perhaps, a three to six month period

between pre and posttest would be more representative of knowledge and self-efficacy changes in this sample. The project design lacks a control group and randomization of participants which would allow for more rigorous statistics. Participants self-evaluated their knowledge and self-efficacy with surveys and there was not a mechanism for outside evaluation of skill by direct observation using a standardized rubric.

Bias. There was risk of bias due to convenience sampling, the sample of participants who volunteered for the study may be different than those who did not volunteer. The recruitment strategy primarily involved participants who live in the Central Virginia region, who were already in a Promotoras WhatsApp group, this could exclude Promotoras who were not in the messaging group. Participants who did not volunteer for this project may have different characteristics and knowledge and self-efficacy of primary care navigation. An inclusion and exclusion criteria along with a clear project protocol introduced objectivity.

Generalizability. This study is not generalizable to the greater population beyond the population of active Promotoras in this region. Due to the total sample size of seven it cannot be generalized to all Promotoras. Additionally, the educational intervention and tools used were created for the specific geographical setting in Central Virginia and for a Spanish speaking sample of Promotoras.

Reliability and Validity. The tools used were all modified or created by the project lead. The knowledge tool was constructed without confirming validity and reliability. The self-efficacy tool and satisfaction survey were adapted and translated by the project lead without confirming reliability and validity. Additionally, the demographic survey did not ask for family size in order to calculate the poverty level of each participant. All of the tools were translated into Spanish by a medical translator and added another limitation in the reliability of the tools.

Knowledge limitations. Without confirmation of reliability and validity of the knowledge survey, there could be a ceiling effect in pre-knowledge results. The project lead reviewed the knowledge survey with a content expert in Spanish and modified the knowledge questions to simplistic, yes or no questions, at a low reading level. It was a surprise to this author that there were such high pre-knowledge scores. Without this tool being validated it could be that the questions were too easy to appropriately assess knowledge, or that it did not appropriately ask questions on the full extent of the training curriculum.

Statistical Limitations. Statistical limitations included not meeting the assumptions for parametric testing due to the sample size of seven participants. All the statistics were on non-parametric results.

Fidelity of Study

Limitations that caused changes to the original study design include changing the date and length of time of the intervention. The original date for the educational intervention was on a Saturday for five hours from 9 AM-2 PM. Promotora leaders approached me about the difficulty for most Promotoras to make this time due to work commitments on the weekend. This led to a change of the intervention date to a weekday and change of the total time to 3.5 hours to allow for participants to get out of work and participate. In changing the amount of time for the project, I had to eliminate the modules on Motivational Interviewing and Communication. Additionally, during the educational session there was found to be insufficient time to do the role play activity. It is possible that less knowledge and self-efficacy were achieved due to the lack of these modules and role-play learning activity. When the time constraint was identified I asked the participants if they would rather do the role play activity or go into greater depth concerning the

clinic profiles, the participants voted to have more in depth knowledge on the clinics rather than do the activity.

Two participants arrived one hour late to the educational session due to health and work constraints. They participated in the educational session, post-tests, signed a consent form and received full compensation for their time. However, they did not complete the pre-test information before participating in the intervention, and were not included in the statistical analysis.

Products of the Scholarly Project

A comprehensive report was submitted to the University of Virginia (UVA) School of Nursing towards the completion of the Doctorate of Nursing Practice (DNP) program and can be found in the UVA Libra database. The scholarly products of this project include an English and Spanish curriculum on primary care navigation, a training guide for trainers of primary care navigation, and a detailed bi-lingual profile guide of the safety-net clinics in the Central Virginia region. A PowerPoint presentation of the project findings will be conducted for Promotoras on the findings. The findings will be shared with the Public Health Department stakeholders and clinics included in the reference binder. A presentation on the navigational resource binder created for this project will be conducted for English speaking non-healthcare professionals through the organization Creciendo Juntos. Additionally, the local academic health system has asked to use the created resource binder to train English speaking CHWs in primary care navigation. The UVA Latino Health Initiative will continue to use the primary care navigation information created for this project to educate the Latino community during their community health activities.

After completion of the project an abstract will be submitted to the Virginia Doctorate of Nursing Practice Conference in the Summer of 2020, Virginia Council of Nurse Practitioner Conference in Spring of 2021, National Association of Hispanic Nurses Conference in Summer of 2021, and Association of Public Health Nurses Conference 2020. A manuscript will be prepared for submission to the peer-reviewed journals, *Hispanic Healthcare International, Health Promotion Practice,* and *Progress in Community Health Partnerships: Research, Education, and Action*, and/or *Public Health Nursing* for publication according to journal guidelines (see Appendix A, for journal guidelines). As I write this, the COVID-19 pandemic has cancelled all academic activities and community programming, all planned events and conferences will be conducted if able.

The project lead was able to co-lead with Promotora participants an educational event for the Latinx community on primary care clinics, with approximately 20 participants in attendance (February 12, 2020). Five Promotoras co-lead the event and were able to provide information, answer questions, and motivate the attendees to seek primary care services.

Finally, by uploading the photos taken by this author to Google Maps, photos of clinics have received over 83,250 views as of February 2020 (see Figure 24, for Google photos). This addresses the very practical aspect of health access, including the community visually knowing what a location looks like both the outside building and inside of the clinic, especially if the community has low-health literacy or is not proficient in English.

Conclusion

This scholarly practice project is situated in the context of the Doctorate of Nursing Practice (DNP) Essentials (American Association of Colleges of Nursing, 2006). This project shows the capacity of the DNP prepared APRN to use scientific practice, leadership,

interprofessional collaboration to improve the health of diverse population. The DNP prepared nurse is highly skilled in interprofessional collaboration including with Promotoras who will continue to be an integral part of the primary care team. This project focused on providing additional resources and solutions for health access to the Latinx community in order to increase primary care utilization. Using the results from this project the project lead is able to practice leadership at the local level to promote the inclusion of Promotoras in the clinical team, remove barriers to primary care for the Latinx community, and promote policy for increased Promotora educational funding. The DNP prepared nurse is uniquely positioned in the community to practice as an APRN and to create systematically change for a diverse population.

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Table 1

Studies evaluated for community health worker primary care navigation

Author, Year	Subjects, Population, Recruitment method	Study design, Setting, Disease focus, Theory	Study purpose	Intervention	Learning Method	Outcomes based on stated aim	Limitations
Braun et al. (2008)	N=62; Paraprofessionals, healthcare providers and Community Health Workers (CHW); Convenient sampling	Pre and Post-test design; Hawaii Community setting; Cancer; Community based participatory research (CBPR), empowerment theory and adult learning theory	Describe how CBPR methods are used to create curricula, and evaluate trainee's knowledge.	Navigation curriculum based on CBPR	Active and Passive	Statistically significant increased knowledge; 100% correct use of navigation skill in case study; Nurse functioned as community college educator	Heterogeneous sample
Calhoun et al. (2010)	N= 196; Faculty, supervisors, and Patient Navigators (PN); sampling- n/a	Pre and post-test design; Community; cancer; Social Cognitive Theory (SCT); Adult learning theory (ALT)	Describe the development and evaluation of a standardized and national training program for PNs	PN curriculum	Active and passive	Education scores increased post intervention High school or greater education was statistically significant for improved education scores	Did not evaluate outcomes for role playing simulation
Wiggins (2010)	N=97; CHWs and university students; Convenient sampling-announcements during mass	Quasi experimental design; mixed methods; CBPR Portland, OR community setting; primary care	Compare PE and traditional education (TE) of CHWs in Latino parish	PE training compared to TE and no training	Active and Passive; PE	PE and TE both increase knowledge; PE group increased health knowledge Empowerment moderately correlated with ability to promote health	PE group was much smaller than TE group; Selection bias of women who chose to participate

		Freire popular education (PE); ALT; Critical race theory					
Ostroff et al. (2011)	N=19; PNs; Randomly selected group of 50 PNs and sent a letter and follow up call	Qualitative -inductive thematic text analysis; setting- N/A; smoking cessation and lung cancer SCT, CBPR	Describe development and evaluation of tobacco dependence curriculum for PNs. Analyze thematic text of transcripts obtained from focus groups.	Tobacco cessation training Focus groups on utility of curriculum	Active and passive	Clarify PN role, boundaries, and responsibilities Simple smoking cessation messaging for patients, cultural tailoring, statistics need to be easier to understand PN requested motivational interviewing to quit smoking and specific resources on clinics, prices, and locations	Small sample size, recruited from one institution
Wennerstrom, et al. (2011)	N=62; CHWs and case managers; Recruitment N/A;	Qualitative; New Orleans, LA, community- based; Mental health CBPR; Collaborative care approach	Describe process of CBPR of CHWs in mental health outreach; responses of training curriculum	CHW mental health training	Active and Passive	Qualitative results: CHW can serve as additional team members to meet needs of mental health community; CHW can meet post disaster community needs	Did not clearly describe educational curriculum; Qualitative design did not allow for a clear association in curriculum and knowledge or skill building
Shelton et al. (2011)	N=9; Lay health worker (LHW) and professional navigators; LHW recruitment via flyers in clinics and	Pre and Post test Clinic- endoscopy suite setting; Colorectal cancer ALT	Compare LHW and professional navigators in knowledge, self-efficacy, satisfaction, and skill	Colonoscopy and navigation training	Active and Passive	LHW and professional navigators had similar outcomes in colorectal cancer knowledge, navigation, self-efficacy, and satisfaction Master's degree may not be necessary to do job of	Different training models taught to LHW and professionals Different dose effect of two months for LHW

	through previous study; Professional navigators recruited via advertisement in internet board, and work place					professional navigator with appropriate training and supervision	and two weeks for professionals No evaluation of change within group; no evaluation of role play skill
Klimmek et al. (2012)	N=5; CHWs; Recruitment-N/A	Qualitative Central Virginia, Community setting; Cancer PROCEED Model, SCT	Key themes based on training program	Train the trainer (TTT) navigation training on cancer	Active and Passive Online modules	High Satisfaction; Moderate to high confidence; TTT is cost effective	Unknown hours of training; knowledge survey not analyze pre and post-test ; computer literacy varied widely and scarcity of Internet
Bone et al. (2013)	N= 14; CHW and PN; recruited as a job	Case study Community; cancer CBPR	Describe CHW navigation program, recruitment, selection, training, and supervision	CBPR based curriculum	Active and Passive	Importance of supervision; and consistent reinforcement of education	Did not evaluate knowledge, self-efficacy, skill, or satisfaction
Moore-Monroy et al. (2013)	N=14; Promotoras de Salud; Promotoras-selected by coalition members based on experience as advocates	Descriptive only post test Pima County, Arizona, Community based; Cervical cancer Community Based Participatory Approach (CBPA), and PE	Describe CBPA to develop curriculum; describe leadership of Promotoras	CBPA curriculum for Promotoras and group presentation for community	Unclear-training; Passive	Promotoras completed a knowledge survey with unknown results and were evaluated on presentation	Promotora knowledge nor presentations were described; Unclear the results of presentation skill and how assessed and evaluated
Vines et al. (2016)	N=15; CHWs; Recruitment by community steering	Pre and Post	Develop community steering community on prostrate health; Identify and train	Prostrate specific Ambassador training	Active and Passive	15 Ambassadors trained; increased knowledge; 1000 community members received	One person on steering committee was also in the study-

	committee including churches; Community Health Educator reviewed and selected applicants	Rural North Carolina, Community Prostrate Cancer CBPR, diffusion of innovation; ALT	CHWs to become prostate Ambassadors; Expose community to research process			prostrate health education over 6 months; 129 health surveys to community; 200 health surveys delivered to churches	threat to internal validity
Rocque et al. (2017)	N= 50; Patient Lay Navigator (PLN); Recruitment- N/A	Mixed methods study- Qualitative and pre and post test University of Alabama Birmingham; Clinic setting; Advanced Care Planning (ACP) Theory- N/A	Measure ACP conversations Measure navigator self-efficacy Measure patient resource utilization Observe barriers and facilitators to ACP interviews	ACP conversation training for Navigators	Passive Online modules	Increased self-efficacy for navigators; Increased self-efficacy with higher patient encounters; Patients who completed ACP discussions had lower rate of hospitalizations, chemotherapy, ICU stays, and ED visits; Identified barriers and facilitators to navigation program	Reporting bias of only engaged navigators

Note. CHW= Community Health Worker, CBPR= Community Based Participatory Research, PN= Patient Navigator, SCT= Social Cognitive Theory, ALT= Adult Learning Theory, PE= Popular Education, TE= Traditional Education, LHW= Lay Health Worker, TTT= Train the Trainer, CBPA= Community Based Participatory Approach, PLN= Patient Lay Navigator, ACP= Advanced Care Planning, ICU= Intensive Care Unit, ED= Emergency Department

Table 2

Promotora Characteristics (N=*7*)

Characteristic	*n*	*%*	*M (SD)*
Age (years)	7		46.1 (12.6)
Experience (years)	7		2.9 (3.19)
Female	7	100	
Race/ethnicity			
Hispanic	6	85.7	
White Non-Hispanic	1	14.3	
Education level			
High school or less	6	85.7	
Greater than high	1	14.3	
Monthly family income			
Below $2000/month	5	71.4	
Above $2001/month	1	14.3	
No answer	1	14.3	
Experience level			
Less than one year	3	42.9	
One year or greater	4	57.1	
Formal education			
Yes	6	85.7	
No	1	14.3	
Education Location			
Dept of health/ Free	3	42.9	
Blue Ridge	2	28.6	
Latino Health Initiative	2	28.6	
Type of Promotora			
Volunteer	7	100	
Patient race/ethnicity			
Hispanic/Latino	7	100	
Monthly activity			
Less than 10 hrs/month	5	71.4	
10 hrs/month	2	28.6	

Note. Total of percentages is not 100 because of roundin

Table 3

Type of Patient Services Requested of Promotoras (N=*7*)

Patient Services	*n*	*%*
Personal health		
Yes	7	100.0
No	0	
Children's health		
Yes	6	85.7
No	1	14.3
Social services		
Yes	2	28.6
No	5	71.4
Clinic referrals		
Yes	5	71.4
No	2	28.6
Family problems		
Yes	4	57.1
No	3	42.9
Transportation		
Yes	1	14.3
No	6	85.7
Recreation		
Yes	1	14.3
No	6	85.7
Mental health		
Yes	4	57.1
No	3	42.9

Note. Original question was "Do people ever ask for help about…?", "Con qué tipo de asuntos la gente le pide ayuda?"

Table 4

Promotora Skills (N=*7*)

Promotora skills	*n*	%
Cultural mediation		
Yes	2	28.6
No	5	71.4
Education		
Yes	5	71.4
No	2	28.6
Navigation		
Yes	3	42.9
No	4	57.1
Social services support		
Yes	4	57.1
No	3	42.9
Advocacy		
Yes	0	
No	7	100.0
Community capacity		
Yes	2	28.6
No	5	71.4
Direct services		
Yes	4	57.1
No	3	42.9
Community assessment		
Yes	1	14.3
No	6	85.7
Outreach		
Yes	2	28.6
No	5	71.4
Research		
Yes	3	42.9
No	4	57.1

Note. Original question was "As a Promotora de Salud have you ever had the opportunity to…?", "Como promotor de salud, alguna vez usted ha tenido la oportunidad de…?"

Table 5

Total Self Efficacy, Knowledge, and Satisfaction Results (N=7)

		Pre-Test		Post-Test		Change Score		
	n	*M (SD)*	*Mdn (IQR)*	*M (SD)*	*Mdn (IQR)*	*M (SD)*	*Mdn (IQR/RNG)*	*p*-value
Total self-efficacy	7	3.9 (0.6)	4.10 (3.6 - 4.2)	4.2 (0.6)	4.4 (3.8 - 4.8)	0.3 (0.5)	0.20 (0 - 0.8)	0.116
Total knowledge	7	9.0 (0.6)	9.00 (9.0 - 9.0)	9.7 (0.5)	10.0 (9.0 - 10.0)	0.7 (0.8)	1.00 (0 - 1.0)	0.059
Total satisfaction	7	NA	NA	32.3 (3.3)	34.0 (30.0 - 35.0)	NA	NA	NA

Note. Wilcoxon signed rank test, significance set at $p < 0.05$, *p*-value was calculated using the exact test. NA = The Satisfaction Survey was administered post-test only. IQR = Interquartile Range, where the N > 3, the Interquartile range is given as the 25th percentile – 75th percentile.

Table 6

*Pre- and Post-Intervention Knowledge Results with Significance (*N = 7*)*

		Pre-test		Post-test		Change score		
Variable	*n*	*M (SD)*	*Mdn (IQR/RNG)*	*M (SD)*	*Mdn (IQR/RNG)*	*M (SD)*	*Mdn (IQR/RNG)*	*p*-value
Experience level								
Less than one year	3	9.0 (1.0)	9.0 (8.0 - 10.0)	10.0 (0.0)	10.0 (10.0 - 10.0)	1.0 (1.0)	1.0 (0 - 2.0)	0.629
One year or greater	4	9.0 (0.0)	9.0 (9.0 - 9.0)	9.5 (0.6)	9.0 (9.0 - 10.0)	0.5 (0.6)	0.5 (0 - 1.0)	
Monthly activity								
Less than 10 hrs./mon	5	9.0 (0.7)	9.0 (8.5 - 9.5)	9.8 (0.5)	10.0 (9.5 - 10.0)	0.8 (0.8)	1.0 (0 - 1.5)	0.857
10 hrs./mon	2	9.0 (0.0)	9.0 (9.0 - 9.0)	9.5 (0.7)	9.5 (9.0 - 10.0)	0.5 (0.7)	0.5 (0 – 1.0)	

Note. Mann-Whitney U test used, significance set at $p < 0.05$, *p*-value was calculated using exact test. IQR = Interquartile Range; where the N > 3, the Interquartile range is given as the 25th percentile – 75th percentile. RNG = Range, where the N <= 3, the Range is given as the minimum and maximum values. 10 hrs./mon = 10 hours per month.

Table 7

*Type of Patient Services Requested of Promotoras and Promotora Knowledge Results (*N=*7)*

		Pre-test		Post-test		Change score		
Patient Service	*n*	*M (SD)*	*Mdn (IQR/RNG)*	*M (SD)*	*Mdn (IQR/RNG)*	*M (SD)*	*Mdn (IQR/RNG)*	*p*-value
Social services								
Yes	2	9.0 (0.0)	9.0 (9.0 - 9.0)	10.0 (0.0)	10.0 (10.0 - 10.0)	1.0 (0.0)	1.0 (1.0 - 1.0)	0.571
No	5	9.0 (0.7)	9.0 (8.5 - 9.5)	9.6 (0.6)	10.0 (9.0 - 10.0)	0.6 (0.9)	0.0 (0.0 - 1.5)	
Clinic referrals								
Yes	5	8.8 (0.5)	9.0 (8.5 - 9.0)	9.6 (0.6)	10.0 (9.0 - 10.0)	0.8 (0.8)	1.0 (0.0 - 1.5)	1.00
No	2	9.5 (0.7)	9.5 (9.0 - 10.0)	10.0 (0.0)	10.0 (10.0 - 10.0)	0.5 (0.7)	0.5 (0.0 -1.0)	
Family problems								
Yes	4	9.0 (0.0)	9.0 (9.0 - 9.0)	9.5 (0.6)	9.5 (9.0 - 10.0)	0.5 (0.6)	0.5 (0.0 - 1.0)	0.629
No	3	9.0 (1.0)	9.0 (8.0 - 10.0)	10.0 (0.0)	10.0 (10.0 - 10.0)	1.0 (1.0)	1.0 (0.0 - 2.0)	
Mental health		8.8 (0.5)	9.0 (8.5 - 9.0)	9.6 (0.6)	10.0 (9.0 - 10.0)	0.8 (0.8)	1.0 (0.0 - 1.5)	
Yes	4	9.5 (0.7)	9.5 (9.0 - 10.0)	10.0 (0.0)	10.0 (10.0 - 10.0)	0.5 (0.7)	0.5 (0.0 - 1.0)	0.400
No	3							

Note. Mann-Whitney U test used, significance set at $p < 0.05$, *p*-value was calculated using exact *p*-value. IQR = Interquartile Range; where the N > 3, the Interquartile range is given as the 25th percentile – 75th percentile. RNG = Range, where the N <= 3, the Range is given as the minimum and maximum values.

Table 8

*Promotora Skill and Promotora Knowledge Results (*N=*7)*

		Pre-test		Post-test		Change score		
Promotora Skill	*n*	*M (SD)*	*Mdn (IQR/RNG)*	*M (SD)*	*Mdn (IQR/RNG)*	*M (SD)*	*Mdn (IQR/RNG)*	*p*-value
Cultural mediation								
Yes	2	8.5 (0.7)	8.5 (8.0 - 9.0)	9.6 (0.6)	10.0 (9.0 - 10.0)	0.4 (0.6)	0.0 (0.0 - 1.0)	0.190
No	5	9.2 (0.5)	9.0 (9.0 - 9.5)	10.0 (0.0)	10.0 (10.0 - 10.0)	1.5 (0.7)	1.5 (1.0 - 2.0)	
Education								
Yes	5	9.0 (0.0)	9.0 (9.0 - 9.0)	10.0 (0.0)	10.0 (10.0 - 10.0)	1.0 (1.4)	1.0 (0.0 - 2.0)	0.857
No	2	9.0 (1.4)	9.0 (8.0 - 10.0)	9.6 (0.6)	10.0 (9.0 - 10.0)	0.6 (0.6)	1.0 (0.0 - 1.0)	
Coordination								
Yes	3	8.7 (0.6)	9.0 (8.0 - 9.0)	10.0 (0.0)	10.0 (10.0 - 10.0)	0.8 (0.5)	1.0 (0.3 - 1.0)	0.857
No	4	9.3 (0.5)	9.0 (9.0 - 9.8)	9.3 (0.6)	9.0 (9.0 - 10.0)	0.7 (1.2)	0.0 (0.0 - 2.0)	
Social services support								
Yes	4	9.3 (0.5)	9.0 (9.0 - 9.8)	9.7 (0.6)	10.0 (9.0 - 10.0)	1.0 (1.0)	1.0 (0.0 - 2.0)	0.629
No	3	8.7 (0.6)	9.0 (8.0 - 9.0)	9.8 (0.5)	10.0 (9.3 - 10.0)	0.5 (0.6)	0.5 (0.0 - 1.0)	

Table 8 (continued)

*Promotora Skill and Promotora Knowledge Results (*N=*7)*

		Pre-test		Post-test		Change score		
Promotora Skill	*n*	*M (SD)*	*Mdn (IQR/RNG)*	*M (SD)*	*Mdn (IQR/RNG)*	*M (SD)*	*Mdn (IQR/RNG)*	*p*-value
Community capacity								
Yes	2	8.8 (0.5)	9.0 (8.3 - 9.0)	10.0 (0.0)	10.0 (10.0 - 10.0)	0.7 (0.6)	1.0 (0.0 - 1.0)	0.857
No	5	9.3 (0.6)	9.0 (9.0 - 10.0)	9.5 (0.6)	9.5 (9.0 - 10.0)	0.8 (1.0)	0.5 (0.0 - 1.8)	
Direct services								
Yes	4	8.5 (0.7)	8.5 (8.0 - 9.0)	9.6 (0.6)	10.0 (9.0 - 10.0)	0.4 (0.6)	0.0 (0.0 - 1.0)	1.000
No	3	9.2 (0.5)	9.0 (9.0 - 9.5)	10.0 (0.0)	10.0 (10.0 - 10.0)	1.5 (0.7)	1.5 (1.0 - 2.0)	
Outreach								
Yes	2	9.0 (0.0)	9.0 (9.0 - 9.0)	10.0 (0.0)	10.0 (10.0 - 10.0)	1.0 (0.7)	1.0 (0.5 - 1.5)	0.190
No	5	9.0 (0.7)	9.0 (8.5 - 9.5)	9.0 (0.0)	9.0 (9.0 - 9.0)	0.0 (0.0)	0.0 (0.0 - 0.0)	
Research								
Yes	3	9.3 (0.6)	9.0 (9.0 - 10.0)	9.75 (0.5)	10.0 (9.3 - 10.0)	1.0 (0.8)	1.0 (0.3 - 1.8)	0.400
No	4	8.8 (0.5)	9.0 (8.3 - 9.0)	9.67 (0.6)	10.0 (9.0 - 10.0)	0.3 (0.6)	0.0 (0.0 - 1.0)	

Note. Mann-Whitney U test used, significance set at $p < 0.05$, *p*-value was calculated using exact *p*-value. IQR = Interquartile Range, where the N > 3, the Interquartile range is given as the 25th percentile – 75th percentile.

Table 9

*Pre-Post Test Item Analysis of Knowledge Assessment (*N=*7)*

Knowledge Assessment Items	Pre-test		Post-test		
	Correct n (%)	Incorrect n (%)	Correct n (%)	Incorrect n (%)	*p* value
1. Are Promotoras allowed to give medications.	7 (100)	0 (0)	7 (100)	0 (0)	-
2. Is the goal of primary care to prevent a disease from happening.	5 (71)	2 (29)	5 (71)	2 (29)	1.000
3. Are vaccines given in primary care clinics.	7 (100)	0 (0)	7 (100)	0 (0)	-
4. Does going to primary care cause individuals to have a shorter life?	7 (100)	0 (0)	7 (100)	0 (0)	-
5. Is the Emergency Room the best place to receive primary care.	7 (100)	0 (0)	7 (100)	0 (0)	-
6. If you are sick with a routine illness can you go to a primary care clinic to be treated.	7 (100)	0 (0)	7 (100)	0 (0)	-
7. Does the Neighborhood Family Health center offer clinic and medicine discounts based on a sliding scale regardless of insurance.	6 (86)	1 (14)	7 (100)	0 (0)	-
8. Can you go to the Charlottesville Free Clinic if you are over 65.	3 (43)	4 (57)	7 (100)	0 (0)	-

Table 9 (continued)

*Pre-Post Test Item Analysis of Knowledge Assessment (*N=*7)*

Knowledge Assessment Items	Pre-test		Post-test		*p* value
	Correct n (%)	Incorrect n (%)	Correct n (%)	Incorrect n (%)	
9. Does UVA have Financial Assistance to help you pay for your medical bills.	7 (100)	0 (0)	7 (100)	0 (0)	-
10. Is it important for Promotoras to keep a patient's name and phone number private and confidential.	7 (100)	0 (0)	7 (100)	0 (0)	-

Note. Exact McNemar's test used, significance set at $p < 0.05$, *p*-value was calculated using exact *p*-value. - = No measures of association are computed because at least one variable in each 2-way table upon which measures of association are computed is a constant.

Table 10

*Pre- and Post-Intervention Self-Efficacy Results with Significance (*N=*7)*

		Pre-test		Post-test		Change score		
	n	*M (SD)*	*Mdn (IQR/RNG)*	*M (SD)*	*Mdn (IQR/RNG)*	*M (SD)*	*Mdn (IQR/RNG)*	*p*-value
Experience level								
Less than one year	3	3.7 (1.0)	3.6 (2.8 - 4.8)	3.9 (0.8)	3.8 (3.2 - 4.8)	0.2 (0.7)	0.0 (-0.4 - 1.0)	0.629
One year or greater	4	4.1 (0.1)	4.1 (4.0 - 4.2)	4.5 (0.4)	4.5 (4.1 - 4.8)	0.4 (0.3)	0.4 (0.1 - 0.7)	
Monthly activity								
Less than 10 hrs./mon	5	3.9 (0.8)	4.1 (3.2 - 4.5)	4.2 (0.7)	4.4 (3.5 - 4.9)	0.3 (0.6)	0.2 (-0.2 - 0.9)	1.000
10 hrs./mon	2	4.0 (0.1)	4.0 (3.9 - 4.1)	4.3 (0.4)	4.3 (4.0 - 4.6)	0.3 (0.3)	0.3 (0.1 - 0.5)	

Note. Mann-Whitney U test used, significance set at $p < 0.05$, *p*-value was calculated using exact *p*-value. IQR = Interquartile Range, where the N > 3, the Interquartile range is given as the 25th percentile – 75th percentile. RNG = Range, where the N <= 3, the Range is given as the minimum and maximum values. 10 hrs./mon = 10 hours per month.

Table 11

*Type of Patient Services Requested of Promotoras and Promotora Self-Efficacy Results (*N=*7)*

		Pre-test		Post-test		Change score		
Patient Service	*n*	*M (SD)*	*Mdn (IQR/RNG)*	*M (SD)*	*Mdn (IQR/RNG)*	*M (SD)*	*Mdn (IQR/RNG)*	*p*-value
Social services								
Yes	2	3.9 (0.4)	3.9 (3.6 - 4.2)	3.8 (0.9)	3.8 (3.2 - 4.4)	-0.1 (0.4)	-0.1 (-0.4 - 0.2)	0.381
No	5	3.9 (0.7)	4.1 (3.4 - 4.5)	4.4 (0.5)	4.6 (3.9 - 4.9)	0.5 (0.4)	0.5 (0.1 - 0.9)	
Clinic referrals								
Yes	5	3.8 (0.6)	4.1 (3.4 - 4.2)	4.3 (0.4)	4.4 (3.9 - 4.8)	0.5 (0.4)	0.5 (0.2 - 0.9)	0.095
No	2	4.2 (0.9)	4.2 (3.6 - 4.8)	4.0 (1.1)	4.0 (3.2 - 4.8)	-0.2 (0.3)	-0.2 (-0.4 - 0.0)	
Family problems								
Yes	4	4.1 (0.1)	4.1 (4.0 - 4.2)	4.48 (0.4)	4.5 (4.1 - 4.8)	0.4 (0.3)	0.4 (0.1 - 0.7)	0.629
No	3	3.7 (1.0)	3.6 (2.8 - 4.8)	3.9 (0.8)	3.8 (3.2 - 4.8)	0.2 (0.7)	0.0 (-0.4 - 1.0)	
Mental health		3.8 (0.6)	4.1 (3.4 - 4.2)	4.3 (0.4)	4.4 (3.9 - 4.8)	0.5 (0.4)	0.5 (0.2 - 0.9)	0.229
Yes	4	4.2 (0.9)	4.2 (3.6 - 4.8)	4.0 (1.1)	4.0 (3.2 - 4.8)	-0.2 (0.3)	-0.2 (-0.4 - 0.5)	
No	3							

Note. Mann-Whitney U test used; significance set at $p < 0.05$, *p*-value was calculated using exact *p*-value. IQR = Interquartile Range; where the N > 3, the Interquartile range is given as the 25th percentile – 75th percentile. RNG = Range, where the N <= 3, the Range is given as the minimum and maximum values.

Table 12

*Self-Efficacy Results and Promotora Skills Results (*N=*7)*

		Pre-test		Post-test		Change score		
Promotora Skill	*n*	*M (SD)*	*Mdn (IQR/RNG)*	*M (SD)*	*Mdn (IQR/RNG)*	*M (SD)*	*Mdn (IQR/RNG)*	*p*-value
Cultural mediation								
Yes	2	3.2 (0.6)	3.2 (2.8 - 3.6)	3.5 (0.4)	3.5 (3.2 - 3.8)	0.3 (1.0)	0.3 (-0.4 - 1.0)	1.000
No	5	4.2 (0.3)	4.1 (4.0 - 4.5)	4.5 (0.4)	4.6 (4.2 - 4.9)	0.3 (0.3)	0.2 (0.1 - 0.7)	
Education								
Yes	5	4.0 (0.2)	4.1 (3.8 - 4.2)	4.2 (0.7)	4.4 (3.6 - 4.8)	0.2 (0.5)	0.2 (-0.2 - 0.7)	0.857
No	2	3.8 (1.4)	3.8 (2.8 - 4.8)	4.3 (0.7)	4.3 (3.8 - 4.8)	0.5 (0.7)	0.5 (0.0 - 1.0)	
Coordination								
Yes	3	3.7 (0.8)	4.1 (2.8 - 4.1)	4.4 (0.6)	4.6 (3.8 - 4.9)	0.8 (0.3)	0.8 (0.5 - 1.0)	0.057
No	4	4.1 (0.5)	4.1 (3.7 - 4.6)	4.1 (0.7)	4.2 (3.4 - 4.7)	-0.0 (0.3)	0.1 (-0.3 - 0.2)	
Social services support								
Yes	4	4.3 (0.4)	4.2 (4.0 - 4.7)	4.5 (0.4)	4.6 (4.1 - 4.9)	0.3 (0.4)	0.2 (0.0 - 0.7)	0.857
No	3	3.5 (0.7)	3.6 (2.8 - 4.1)	3.9 (0.7)	3.8 (3.2 - 4.6)	0.4 (0.7)	0.5 (-0.4 - 1.0)	
Community capacity								
Yes	2	3.8 (0.7)	4.1 (3.1 - 4.2)	4.4 (0.5)	4.5 (4.0 - 4.8)	0.6 (0.4)	0.7 (0.3 - 1.0)	1.00
No	5	4.1 (0.6)	3.9 (3.6 - 4.8)	4.0 (0.8)	4.0 (3.2 - 4.8)	-0.1 (0.3)	0.0 (-0.4 - 0.1)	

Table 12 Continued

*Pre- and Post-Intervention Self-Efficacy Results and Promotora Skills Results (*N=*7)*

		Pre-test		Post-test		Change score		
Promotora Skill	*n*	*M (SD)*	*Mdn (IQR/RNG)*	*M (SD)*	*Mdn (IQR/RNG)*	*M (SD)*	*Mdn (IQR/RNG)*	*p*-value
Direct services		3.2 (0.6)	3.2 (2.8 - 3.6)	3.5 (0.4)	3.5 (3.2 - 3.8)	0.3 (1.0)	0.3 (-0.4 - 1.0)	0.057
Yes	4	4.2 (0.3)	4.1 (4.0 - 4.5)	4.5 (0.4)	4.6 (4.2 - 4.9)	0.3 (0.3)	0.2 (0.1 - 0.7)	
No	3							
Outreach								
Yes	2	4.1 (0.0)	4.1 (4.1 - 4.1)	4.8 (0.2)	4.75 (4.6 - 4.9)	0.7 (0.2)	0.7 (0.5 - 0.8)	0.381
No	5	3.7 (0.7)	3.9 (3.2 - 4.5)	4.0 (0.6)	4.00 (3.5 - 4.6)	0.2 (0.5)	0.1 (-0.2 - 0.6)	
Research								
Yes	3	4.3 (0.5)	4.1 (3.9 - 4.8)	4.6 (0.5)	4.80 (4.0 - 4.9)	0.3 (0.4)	0.1 (0.0 - 0.8)	0.857
No	4	3.7 (0.6)	3.9 (3.0 - 4.2)	4.0 (0.6)	4.10 (3.4 - 4.6)	0.3 (0.6)	0.4 (-0.3 - 0.9)	

Note. Mann-Whitney U test used; significance set at $p < 0.05$, *p*-value was calculated using exact *p*-value. IQR = Interquartile Range; where the N > 3, the Interquartile range is given as the 25th percentile – 75th percentile. RNG = Range; where the N <= 3, the Range is given as the minimum and maximum values.

Table 13

*Pre-Post Analysis of Self-Efficacy Assessment (*N=*7)*

Self-efficacy assessment item	Pre-Test		Post-Test		Change score		
	M (SD)	*Mdn (IQR)*	*M (SD)*	*Mdn (IQR)*	*M (SD)*	*Mdn (IQR)*	*p*-value
1. How confident are you in your ability to verbalize your role as a Promotora?	3.4 (0.8)	4.0 (3.0-4.0)	4.1 (0.7)	4.0 (4.0-5.0)	0.7 (0.8)	1.0 (0.0-1.0)	0.059
2. How confident are you in your ability to tell your neighbors what services are provided at a primary care clinic.	4.0 (0.8)	4.0 (3.0-5.0)	4.6 (0.5)	5.0 (4.0-5.0)	0.6 (0.8)	1.0 (0.0-1.0)	0.102
3. How confident are you in your ability to give advice or assistance to your neighbors on health issues.	3.9 (0.7)	4.0 (3.0-4.0)	4.0 (0.8)	4.0 (3.0-5.0)	0.1 (0.9)	0.0 (-1.0-1.0)	0.655
4. How confident are you in your ability to help a parent find primary health care for their children.	4.0 (0.6)	4.0 (4.0-4.0)	4.3 (1.0)	5.0 (3.0-5.0)	0.3 (1.0)	1.0 (-1.0-1.0)	0.414
5. How confident are you in your ability to help a neighbor who has no insurance find primary health care.	3.7 (0.4)	4.0 (4.0-4.0)	4.4 (0.8)	5.0 (4.0-5.0)	0.6 (0.8)	1.0 (0.0-1.0)	0.102

Table 13 Continued

*Pre-Post Analysis of Self-Efficacy Assessment (*N=*7)*

Self-efficacy assessment item	Pre-test		Post-Test		Change score		
	M (SD)	*Mdn (IQR)*	*M (SD)*	*Mdn (IRQ)*	*M (SD)*	*Mdn (IQR)*	*p*-value
6. How confident are you in your ability to help a neighbor who is undocumented find primary health care.	4.0 (0.6)	4.0 (4.0-4.0)	4.4 (0.8)	5.0 (4.0-5.0)	0.4 (0.8)	1.0 (0.0-1.0)	0.180
7. How confident are you in your ability to help a neighbor who needs mental health services.	3.6 (0.7)	4.0 (3.0-4.0)	4.0 (0.8)	4.0 (3.0-5.0)	0.4 (0.8)	0.0 (0.0-1.0)	0.180
8. How confident are you in your ability to find credible health resources on the Internet.	3.9 (1.2)	4.0 (3.0-5.0)	3.7 (0.8)	4.0 (3.0-4.0)	-0.1 (1.17)	0.0 (-1.0-1.0)	0.705
9. How confident are you in your ability to encourage or motivate a neighbor to take care of their health and their family's health.	4.1 (0.7)	4.0 (4.0-5.0)	4.1 (0.7)	4.0 (4.0-5.0)	0.0 (0.8)	0.0 (-1.0-1.0)	1.000
10. How confident are you in your ability to keep client's information private and confidential.	4.6 (0.5)	5.0 (4.0-5.0)	4.7 (0.5)	5.0 (4.0-5.0)	0.1 (0.4)	0.0 (0.0-0.0)	0.317

Note. Wilcoxon Signed Rank test was used; significance set at $p < 0.05$, p-value calculated with asymptotic significances. IQR = Interquartile Range; where the N > 3, the Interquartile range is given as the 25^{th} percentile – 75^{th} percentile.

Table 14

Post-Intervention Satisfaction Results with Significance (*N*=7)

Variable	*n*	*M (SD)*	*Mdn (IQR/RNG)*	*p*-value
Experience Years				
Less than one year	3	31.7 (4.9)	34 (26.0 - 35.0)	1.000
One year or greater	4	32.8 (2.2)	33 (30.5 - 34.8)	
Hours of Activity				
Less than 10 hrs./month	5	32.0 (4.0)	34 (28.0 - 35.0)	0.857
10 hrs./month	2	33.0 (1.4)	33 (32.0 - 34.0)	

Note. Mann-Whitney U test used, significance set at $p < 0.05$, *p*-value was calculated using exact *p*-value. IQR = Interquartile Range, where the N > 3, the Interquartile range is given as the 25th percentile – 75th percentile. RNG = Range, where the N <= 3, the Range is given as the minimum and maximum values.

Table 15

*Post-Intervention Satisfaction Results and Patient Services Results (*N=*7)*

Patient Services	*n*	*M (SD)*	*Mdn (IQR/RNG)*	*p*-value
Social services				
Yes	2	30.5 (6.4)	30.5 (26.0 - 35.0)	0.857
No	5	33.0 (2. 0)	34.0 (31.0 - 34.5)	
Clinic referrals				
Yes	5	33.2 (2.2)	34.0 (31.0 - 35.0)	0.381
No	2	30.0 (5.7)	30.0 (26.0 - 34.0)	
Family problems				
Yes	4	32.8 (2.2)	33.0 (30.5 - 34.8)	1.000
No	3	31.7 (4.9)	34.0 (26.0 - 35.0)	
Mental health				
Yes	4	33.5 (2.4)	34.5 (31.0 – 35.0)	0.229
No	3	30.7 (4.2)	32.0 (26.0 – 34.0)	

Note. Mann-Whitney U test used, significance set at $p < 0.05$, *p*-value was calculated using exact *p*-value. IQR = Interquartile Range; where the N > 3, the Interquartile range is given as the 25th percentile – 75th percentile. RNG = Range; where the N <= 3, the Range is given as the minimum and maximum values.

Table 16

*Post-Intervention Satisfaction Results and Promotora Skills Results (*N=*7)*

Promotora Skills	*n*	M (SD)	*Mdn (IQR/RNG)*	*p*-value
Cultural mediation				
Yes	2	30.5 (6.4)	30.5 (26.0 - 35.0)	0.857
No	5	33.0 (2.0)	34.0 (31.0 - 34.5)	
Education				
Yes	5	31.4 (3.6)	32.0 (28.0 - 34.5)	0.381
No	2	34.5 (0.7)	34.5 (34.0 - 35.0)	
Coordination				
Yes	3	32.3 (2.5)	32.0 (30.0 - 35.0)	0.857
No	4	32.3 (4.2)	34.0 (28.0 - 34.8)	
Social services support				
Yes	4	33.3 (2.2)	34.0 (31.0 - 34.8)	0.629
No	3	31.0 (4.6)	32.0 (26.0 - 35.0)	
Community capacity				
Yes	2	32.0 (2.8)	32.0 (30.0 - 34.0)	0.571
No	5	32.4 (3. 8)	34.0 (29.0 - 35.0)	
Direct services				
Yes	4	33.0 (2.5)	33.5 (30.5 - 35.0)	0.629
No	3	31.3 (4.6)	34.0 (26.0 - 34.0)	

Table 16 (continued)

*Post-Intervention Satisfaction Results and Promotora Skills Results (*N=*7)*

Promotora Skills	*n*	M (SD)	*Mdn (RNG/IQR)*	p-value
Outreach				
Yes	2	31.0 (1.4)	31.0 (30.0 - 32.0)	0.381
No	5	32.8 (3.8)	34.0 (30.0 - 35.0)	
Research				
Yes	3	32.7 (2.3)	34.0 (30.0 - 34.0)	0.857
No	4	32.0 (4.2)	33.5 (27.5 - 35.0)	

Note. Mann-Whitney U test used, significance set at $p < 0.05$, *p*-value was calculated using exact *p*-value. IQR = Interquartile Range; where the N > 3, the Interquartile range is given as the 25th percentile – 75th percentile. RNG = Range; where the N <= 3, the Range is given as the minimum and maximum values.

Table 17

Satisfaction Item Analysis (*N*=7)

Variable	*M (SD)*
Themes	4.57 (0.54)
Information presented	4.71 (0.49)
Audiovisuals	4.71 (0.49)
Brochures and pamphlets	4.71 (0.49)
Class duration	4.57 (0.54)
Time for participation	4.57 (0.79)
Learning during class	4.43 (0.79)
Culturally competent	4.57 (0.79)
Helpful for your community	4.57 (0.79)

Table 18

Feedback Responses

Spanish	English
Positive Feedback	
Saber de todas las oportunidades qué hay en nuestra comunidad.	"learning about the opportunities that there are in our community"
Lugares de cuidados medicos	"places for medical care"
Información especifica	"specific information"
Todo ha sido muy efectivo y productivo	"everything was very effective and productive"
Información sobre la salud y recursos	"information about health and resources"
La descripción de detalles de cada clínica y el mapa	"the detailed description of each clinic and the map [activity]"
Negative Feedback	
Todas fueron excelentes para poder ayudar a otras personas. Todo fue efectivo.	"Everything was excellent to help other people, everything was very effective"
Ninguna	Nothing
Todo lo que vimos es efectivo para mi	Everything we saw was very effective for me
Nos hizo falta tiempo todo fue muy fenomenal	"not having enough time" "everything was very phenomenal"

Table 19

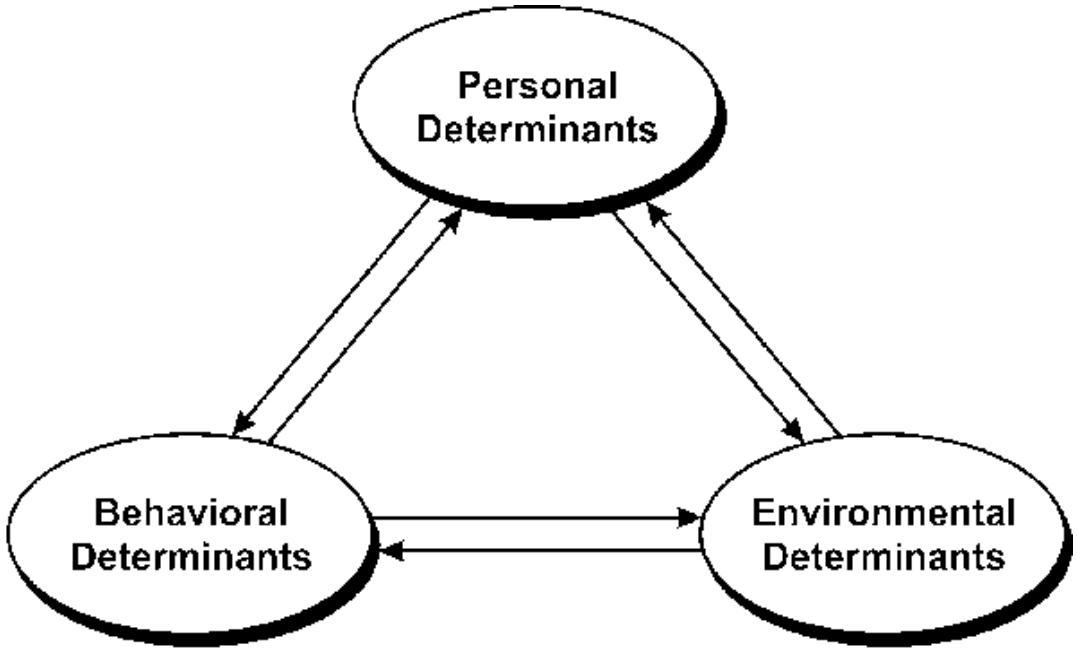
*Pearson Scores on Correlations of Self-Efficacy, Knowledge and Satisfaction (*N=*7)*

Measure	1	2	3
1. Self-Efficacy Measurement	-	0.150	0.414
2. Knowledge	0.150	-	0.238
3. Satisfaction	0.414	0.238	-

Note. Pearson correlation test used. All coefficients are significant at $p < .05$.

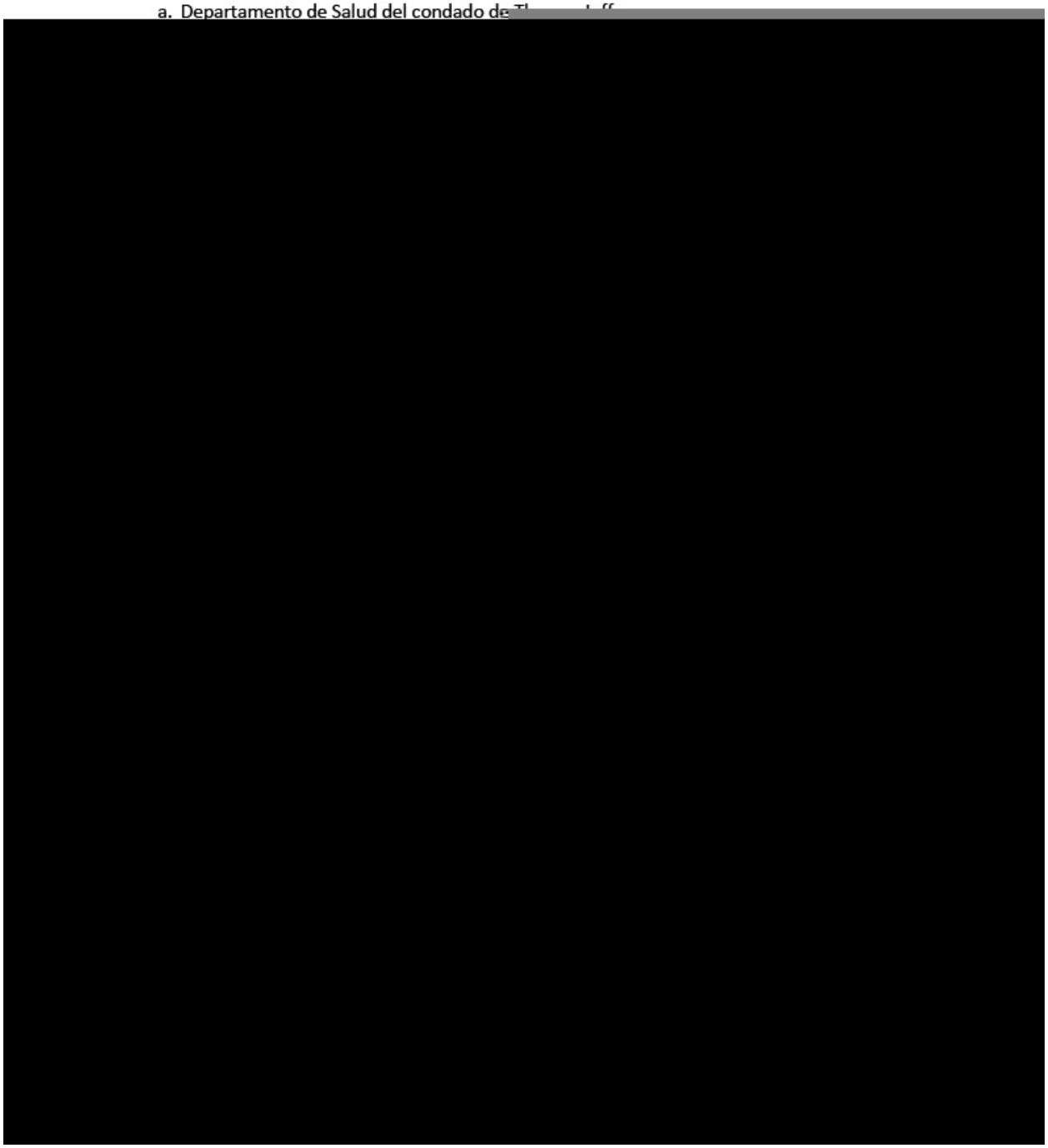
Figure 1

Theoretical Framework



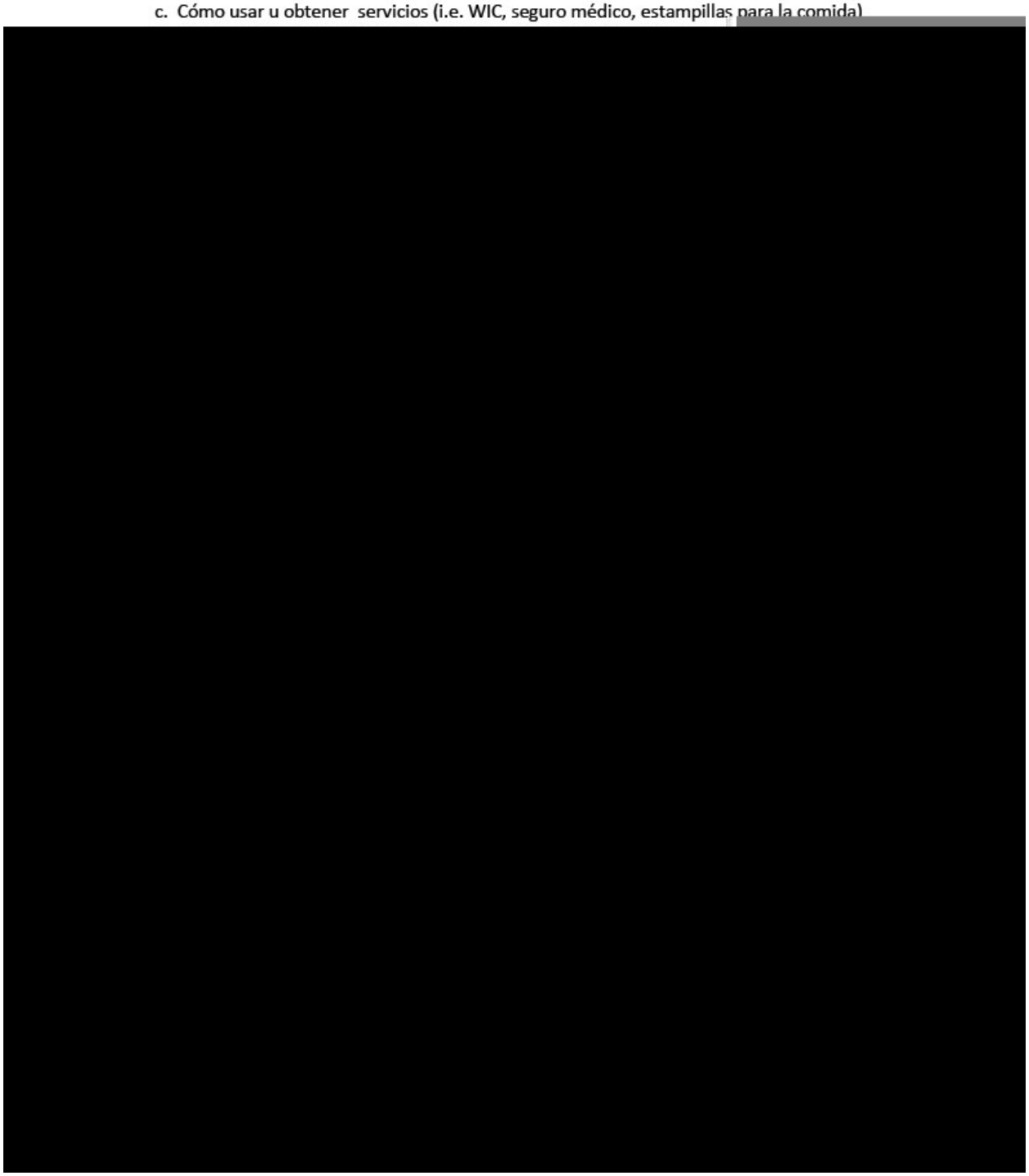
7. **¿Tiene usted educación formal como Promotor de Salud o Educadora de Salud?**
   a. Sí
   b. No

8. **¿De donde? (Haga un círculo alrededor todas las respuestas que apliquen)**
   a. Departamento de Salud del condado de [redacted]



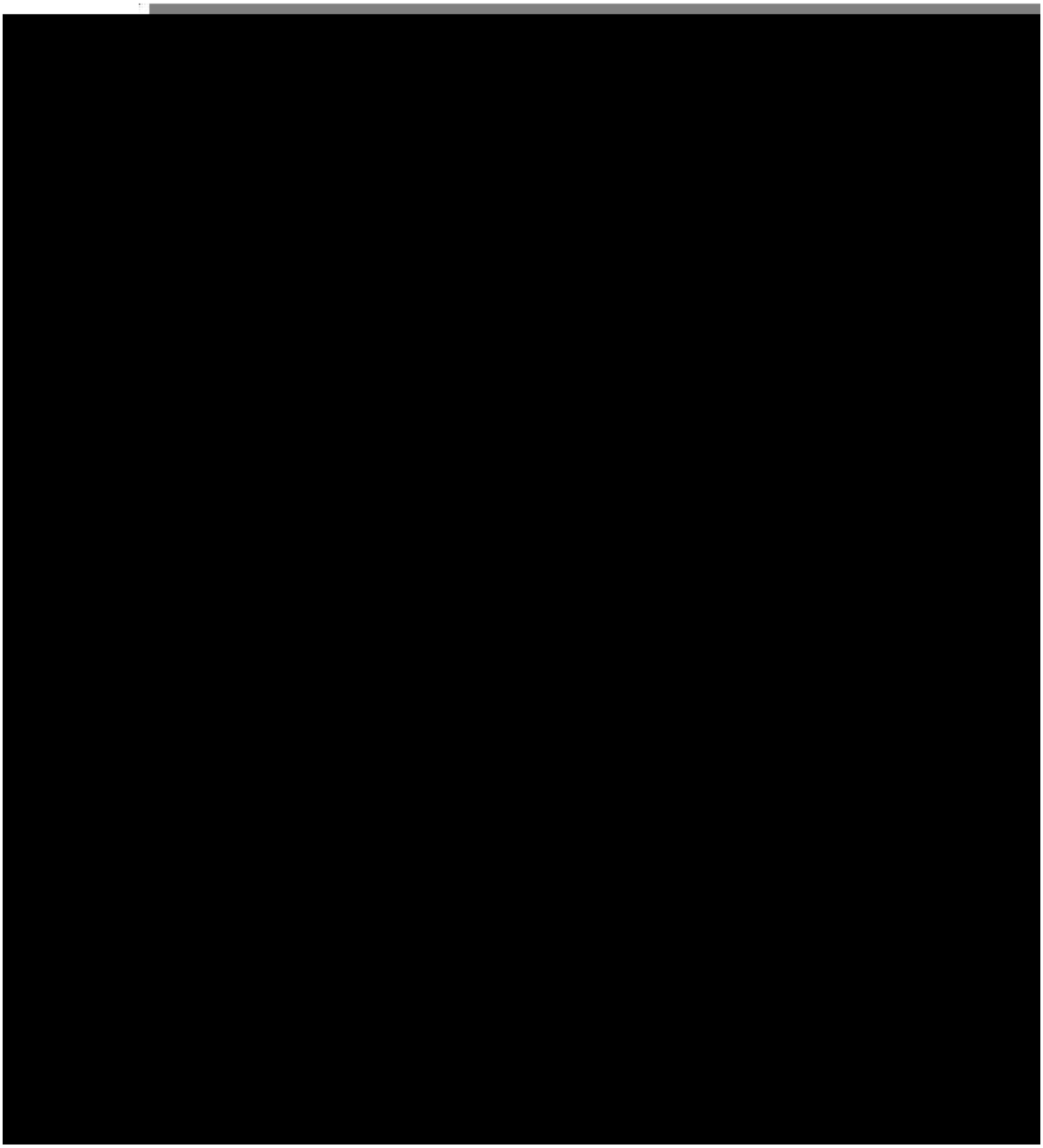
12. ¿Con qué tipo de asuntos la gente le pide ayuda? (eligir todos los que se apliquen)

a. Su propia salud
b. La salud de sus hijos
c. Cómo usar u obtener servicios (i.e. WIC, seguro médico, estampillas para la comida)



7. **¿Con que tanta confianza se siente en su capacidad de ayudar a un vecino que necessita servicios de salud mental?**

1	2	3	4	5
No tengo Confianza	Poca Confianza	Moderadamente Confianza	Con Confianza	Con Mucha Confianza

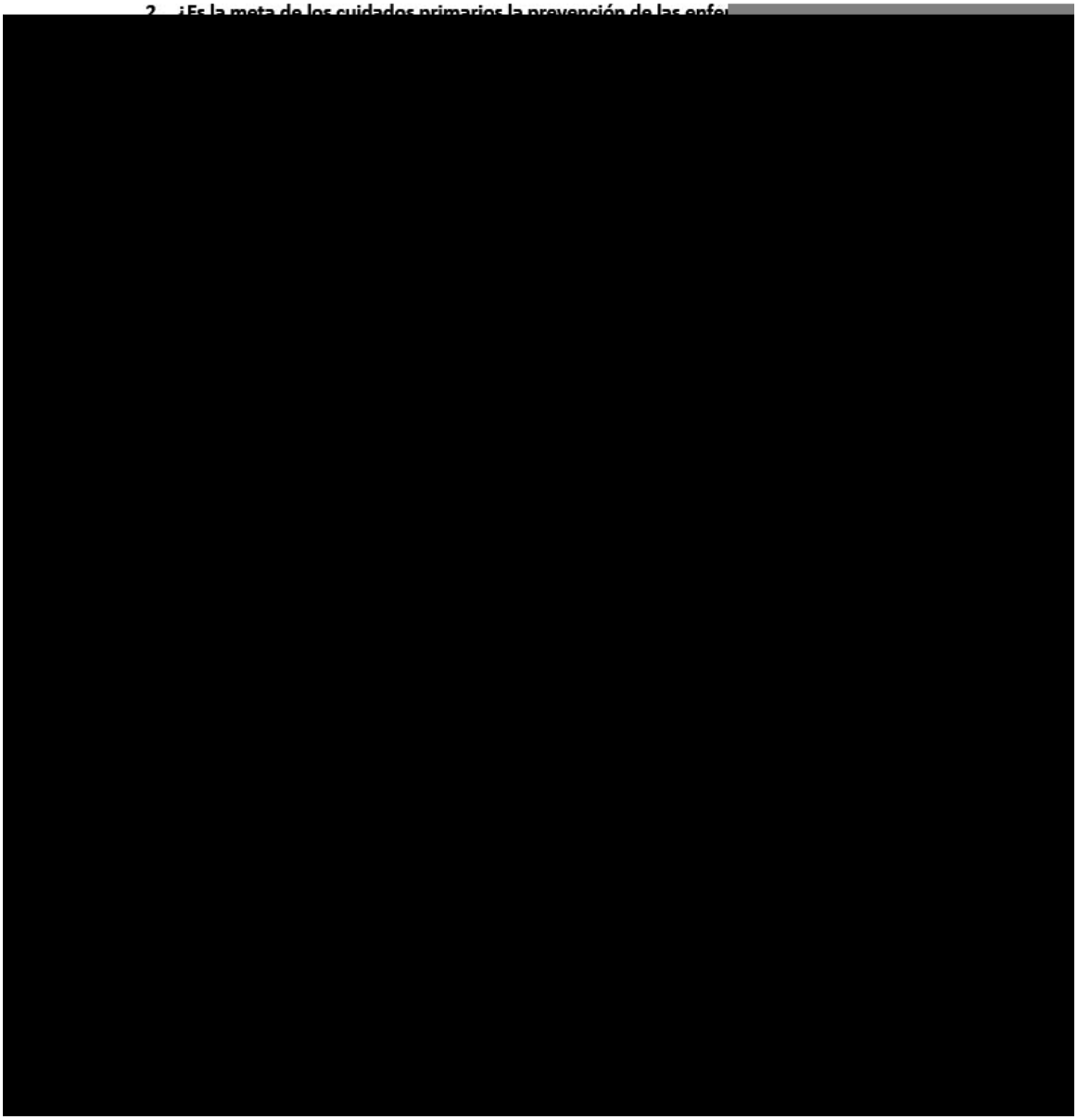


Encuesta de Conocimientos-PRE

Instrucciones: Por favor marque con un círculo la mejor respuesta.

1. **¿Pueden las promotoras dar medicinas?**
    a. Yes /Sí
    b. No /No

2. **¿Es la meta de los cuidados primarios la prevención de las enfe**



Encuesta de Satisfacción-POST

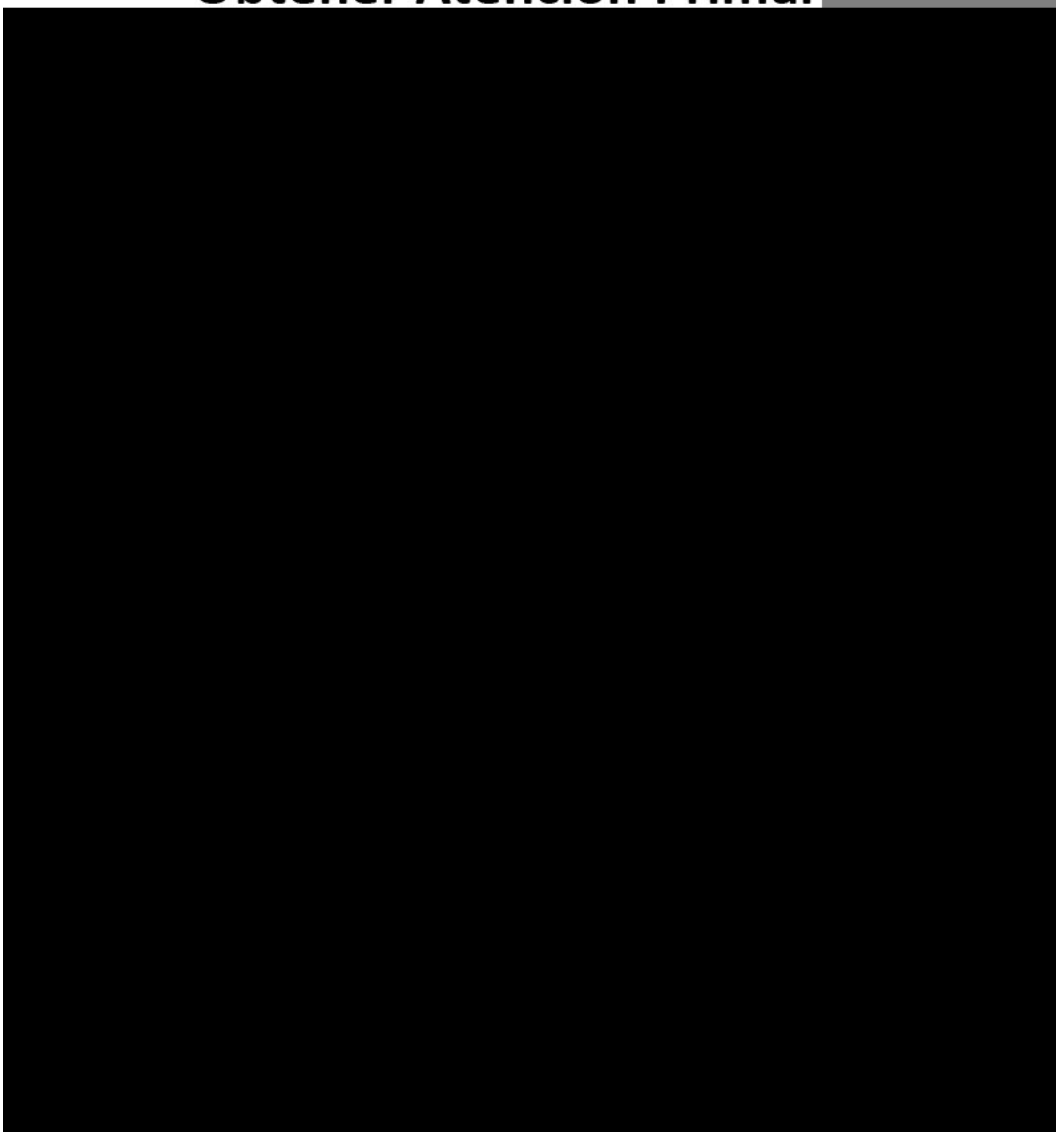
Instrucciones: Por favor marque su satisfacción de 1-5 usando las respuestas en el cuestionario:

1	2	3	4	5
No Satisfecho	Poco Satisfecho	Moderadamente Satisfecho	Muy Satisfecho	Extemadamente Satisfecho

---

1. Temas Presentados

Guiar a la Communidad a Obtener Atención Primaria



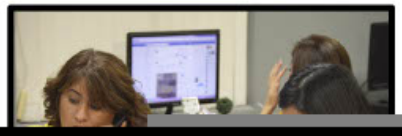
ROLES Y HABILIDADES DE PROMOTORAS

Objetivos de aprendizaje
• Roles y habilidades de las Promotoras

[redacted]

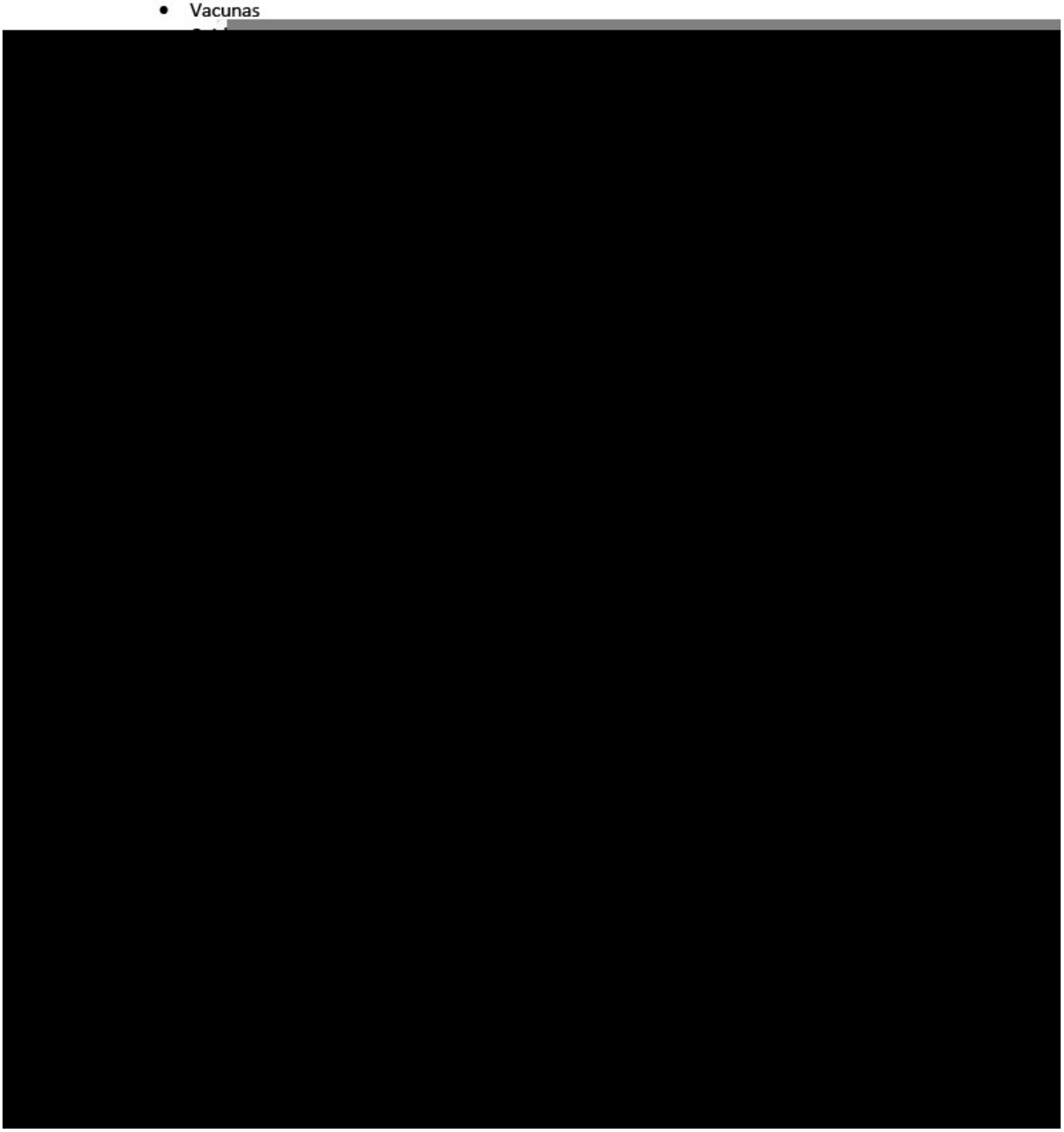
Habilidades de Promotores

- Habilidades de Comunicación
- Habilidades Interpersonales
- Habilidades de Coordinación de Cuidados de Salud y



[redacted]

- Atención de salud en el comportamiento
- Crecimiento y desarrollo
- Salud Mental
- Trastorno por déficit de atención e hiperactividad (TDAH)
- Examen físico para la escuela/deportes
- Vacunas



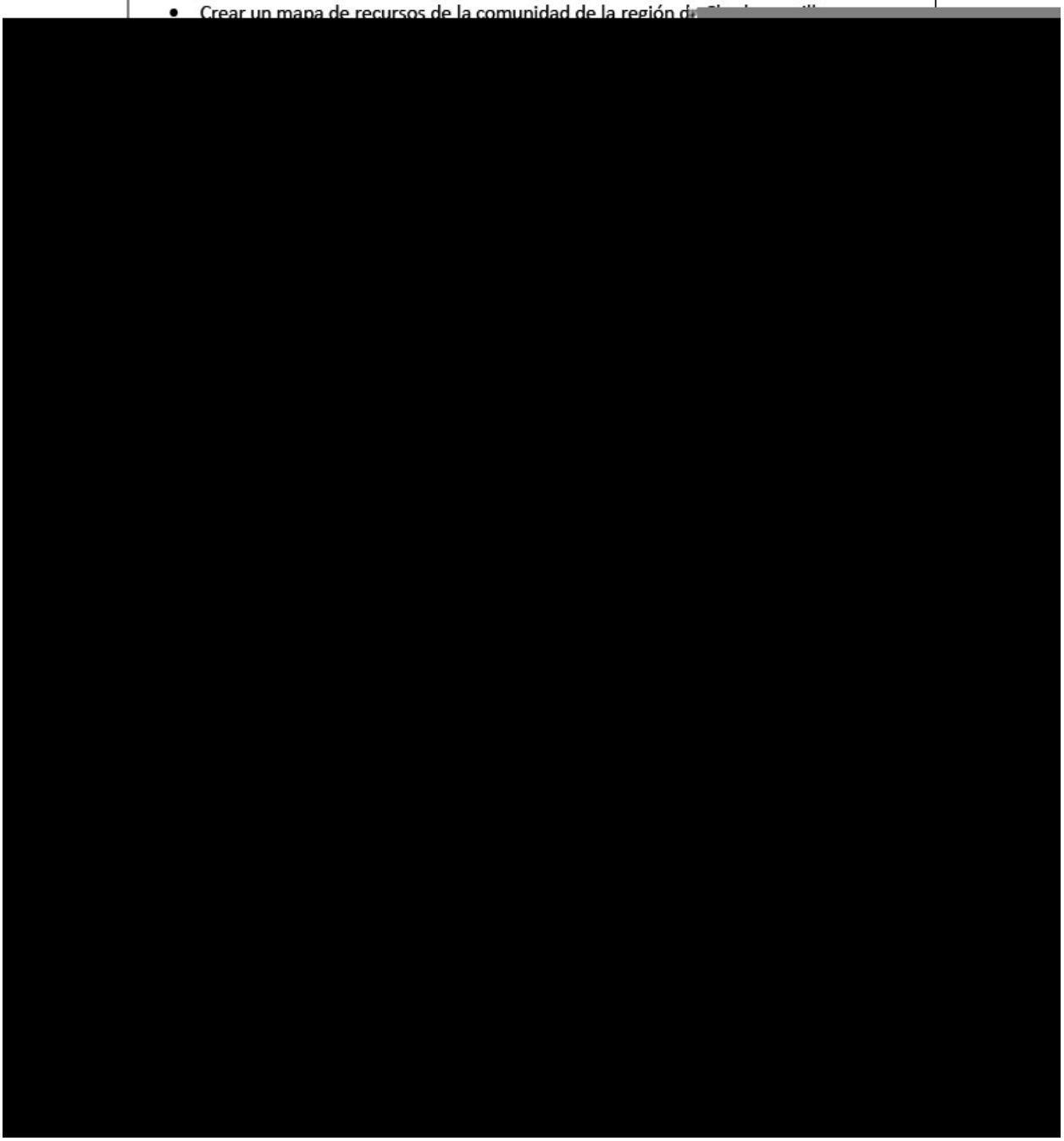
¿Por qué los latinos necesitan atención primaria?

- La principal causa de muerte es enferemedades de corazón
- Diabetes
- Derrame cerebral
- Lesiones no intencionales

[redacted]

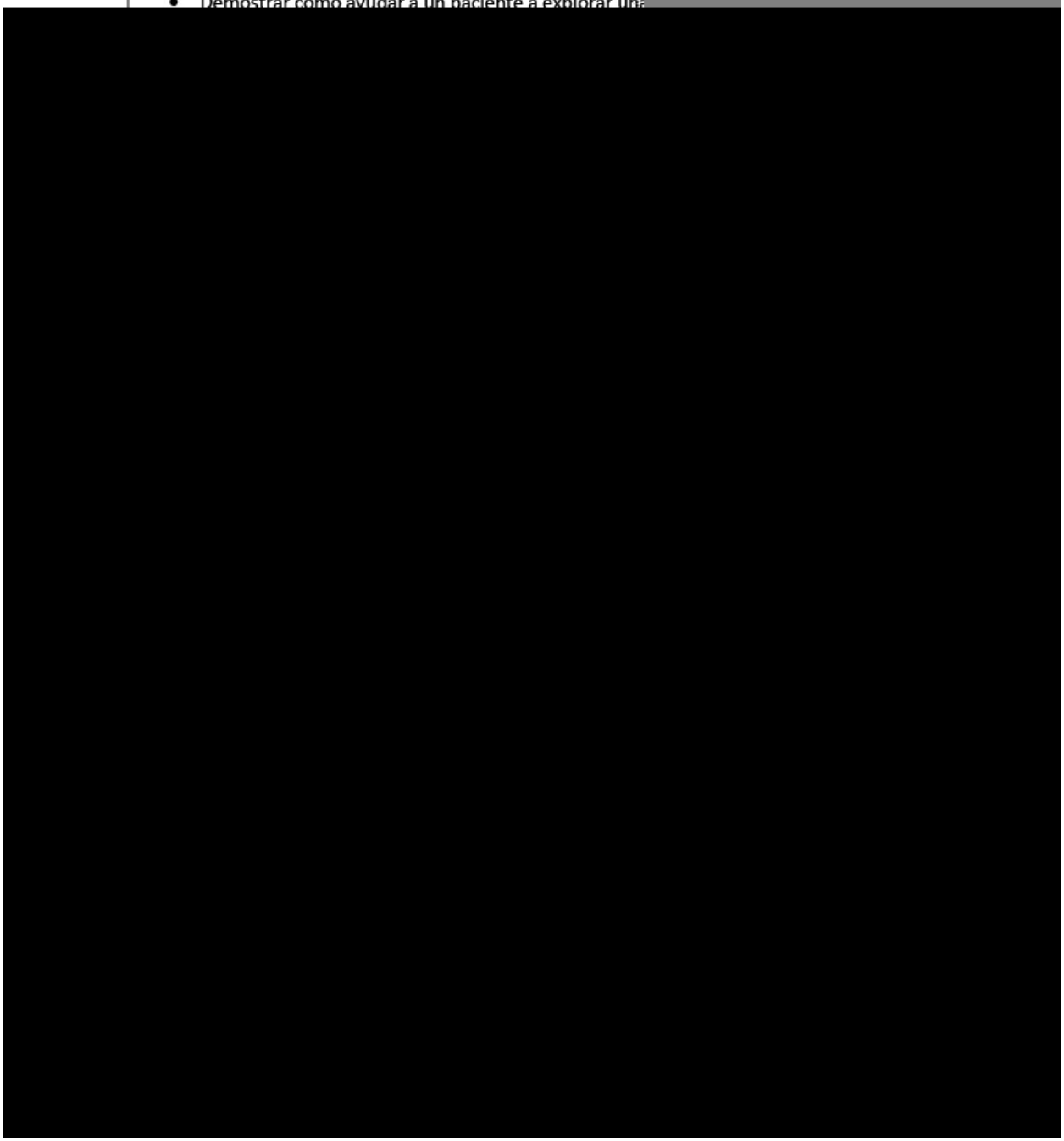
Mapas de Recursos (Asset Mapping)

Objetivos de aprendizaje
• Crear un mapa de recursos de la comunidad de la región d[redacted]



COMMUNICACIÓN

Objetivos de aprendizaje
• Identificar los datos identificadores de pacientes • Demostrar cómo ayudar a un paciente a explorar una [redacted]



Notas

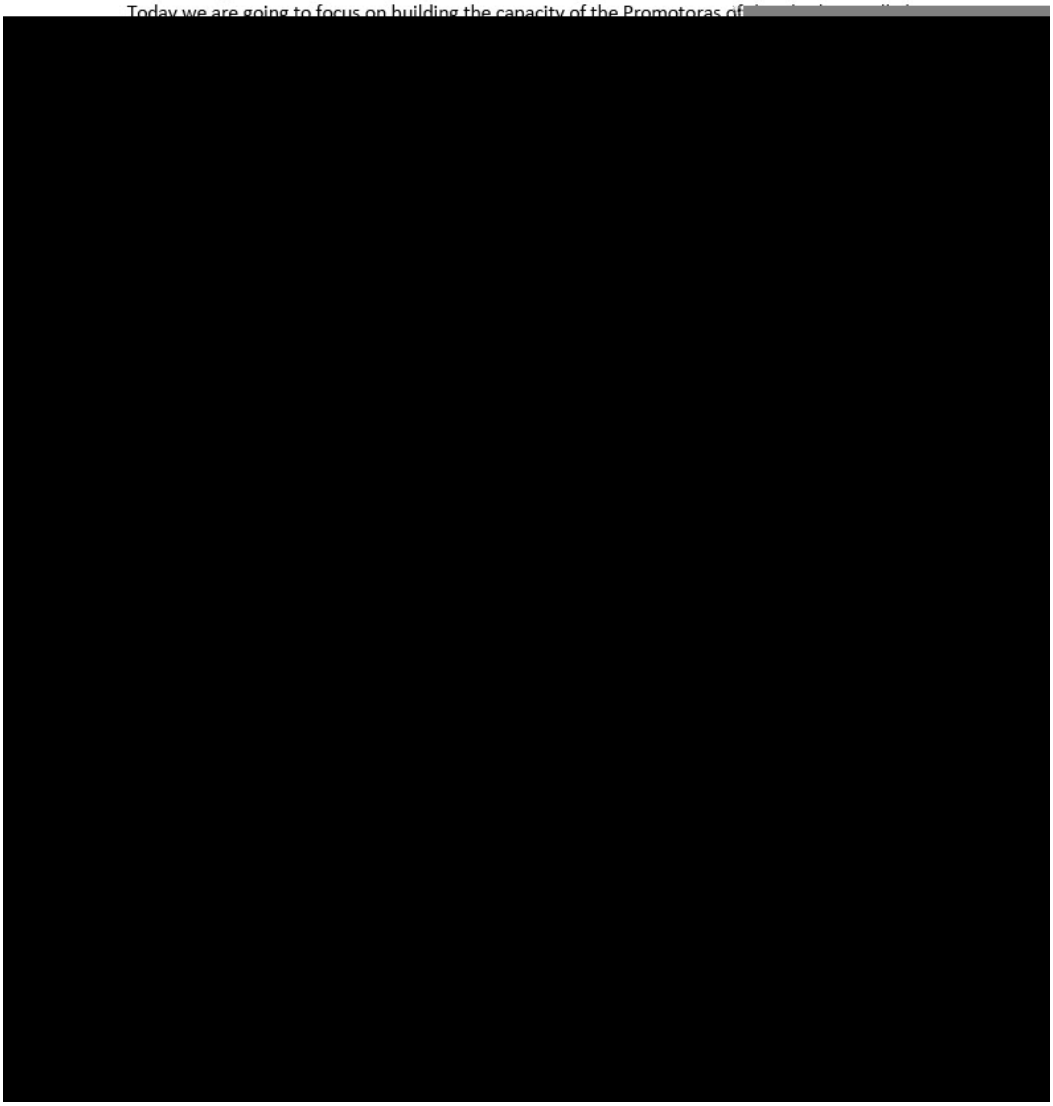
Actividad: Juego de roles #2
• Usando la lección de comunicación y los mapas de recursos, dividiremos el grupo en equipos de tres y haremos juegos de roles para orientar a la paciente a la clínica más

[redacted]

Navigating Primary Care

Project Purpose

Today we are going to focus on building the capacity of the Promotoras of



PRIMARY CARE

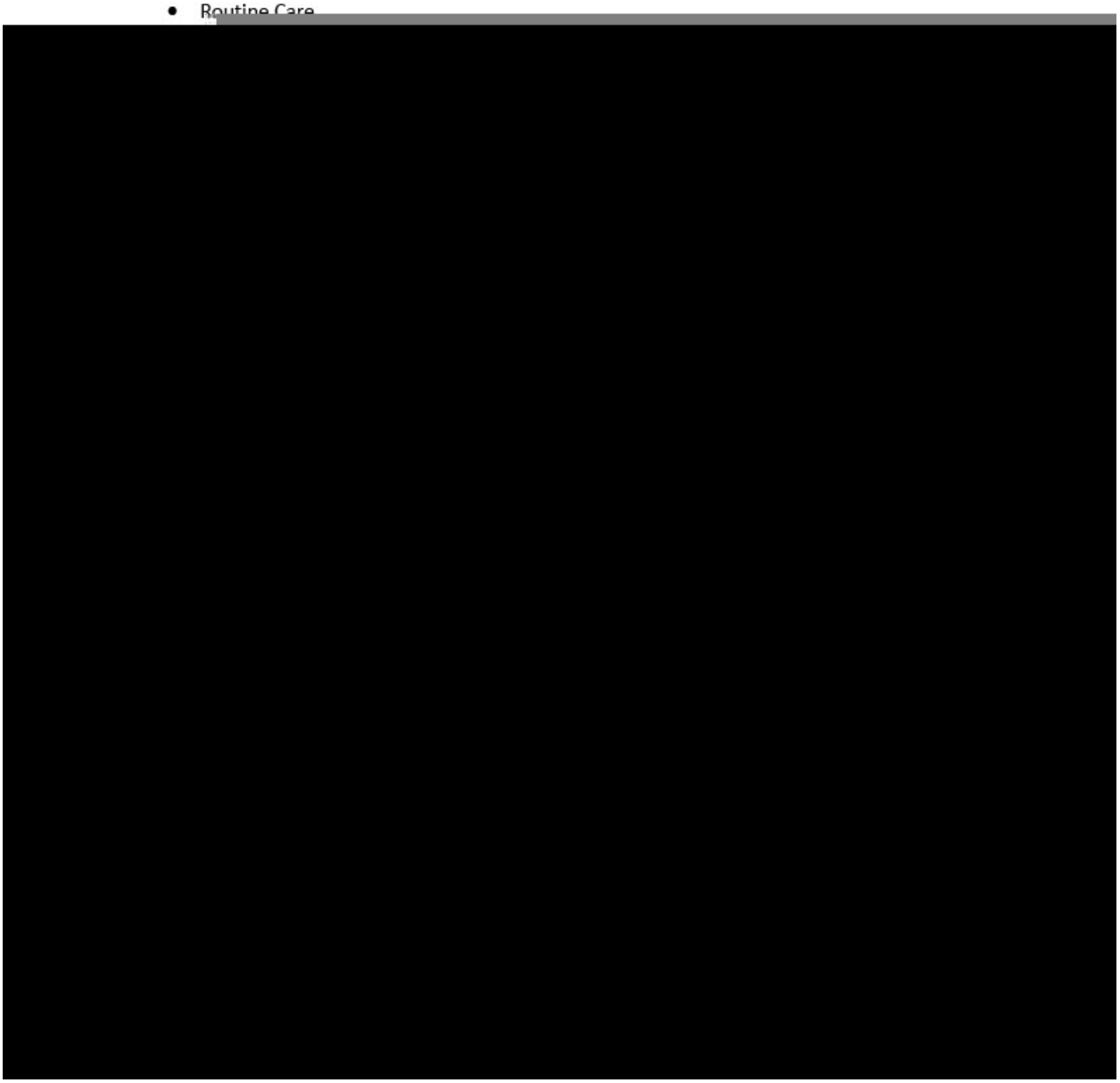
Learning Objectives
• Describe components of primary care
• Identify services that are offered for children, women

[redacted]

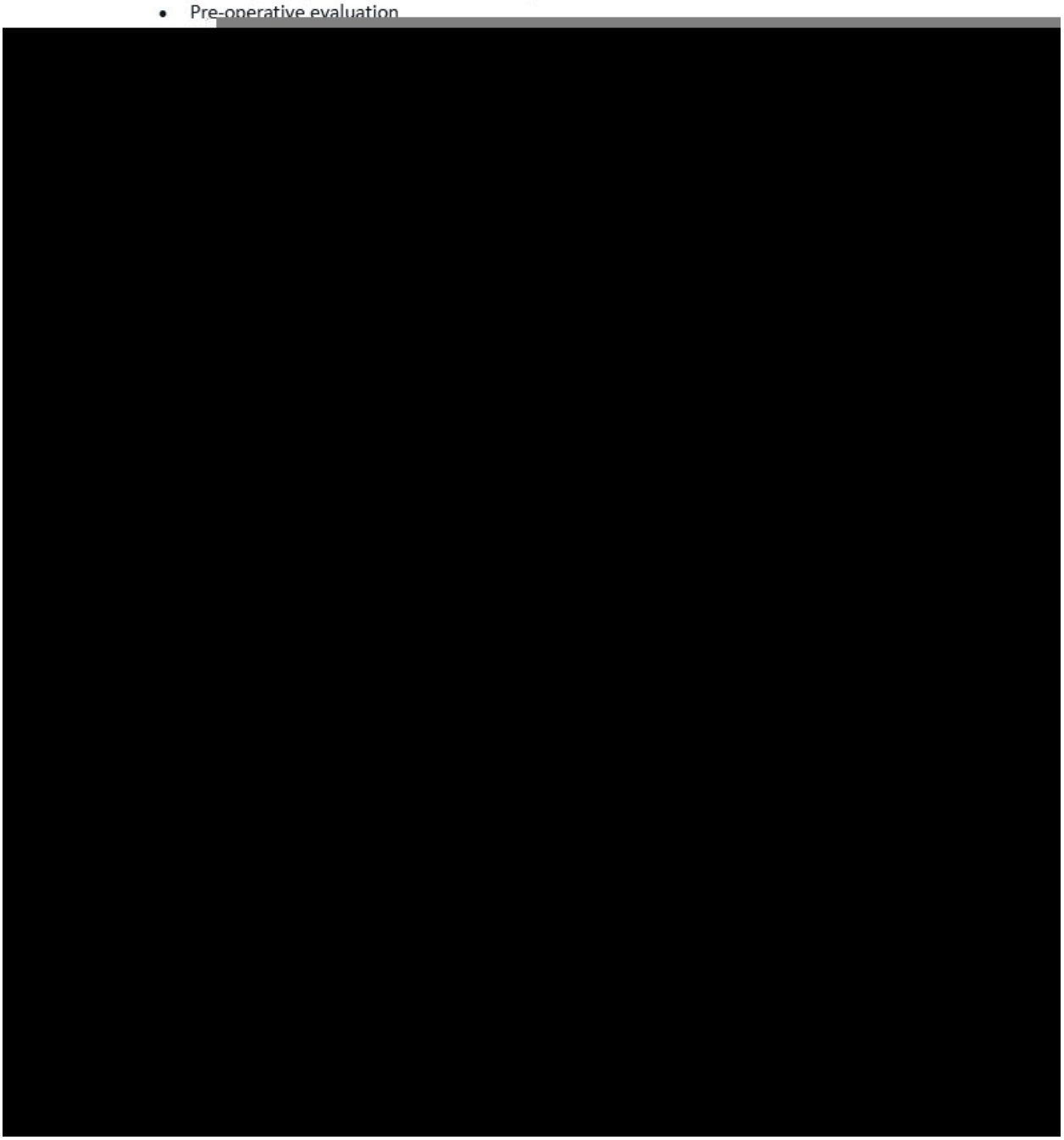
- Doctors Office
- Community Clinic
- Retail Clinics
- Hospitals
- Free Clinic

What is Offered in Primary Care?

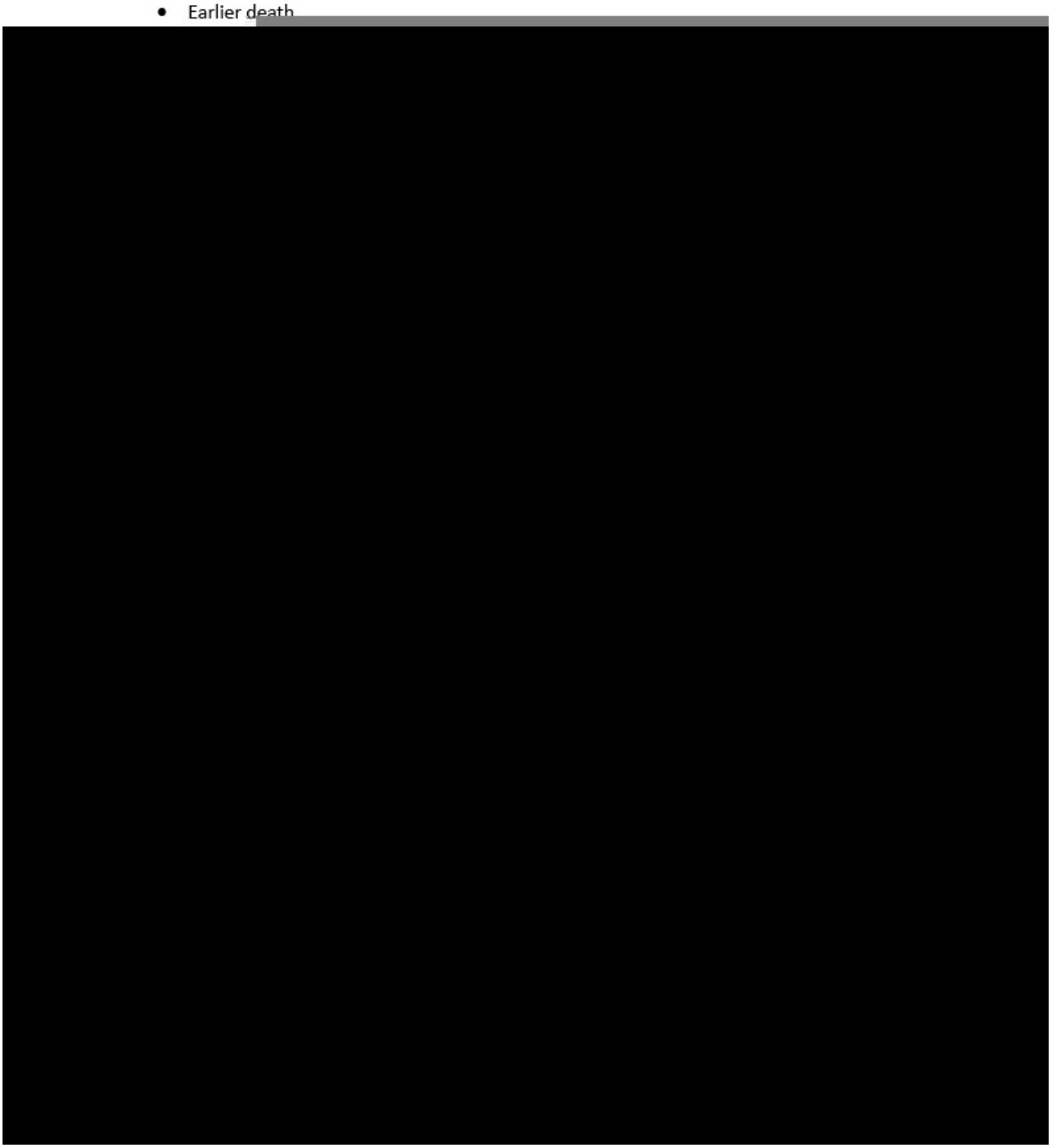
- Physical Exam
- Health Care for routine illnesses
- Routine Care



- Immunizations
- Care of chronic health problems
- Medication management
- Diabetes and heart disease management
- Healthy lifestyle and nutrition counseling
- Pre-operative evaluation

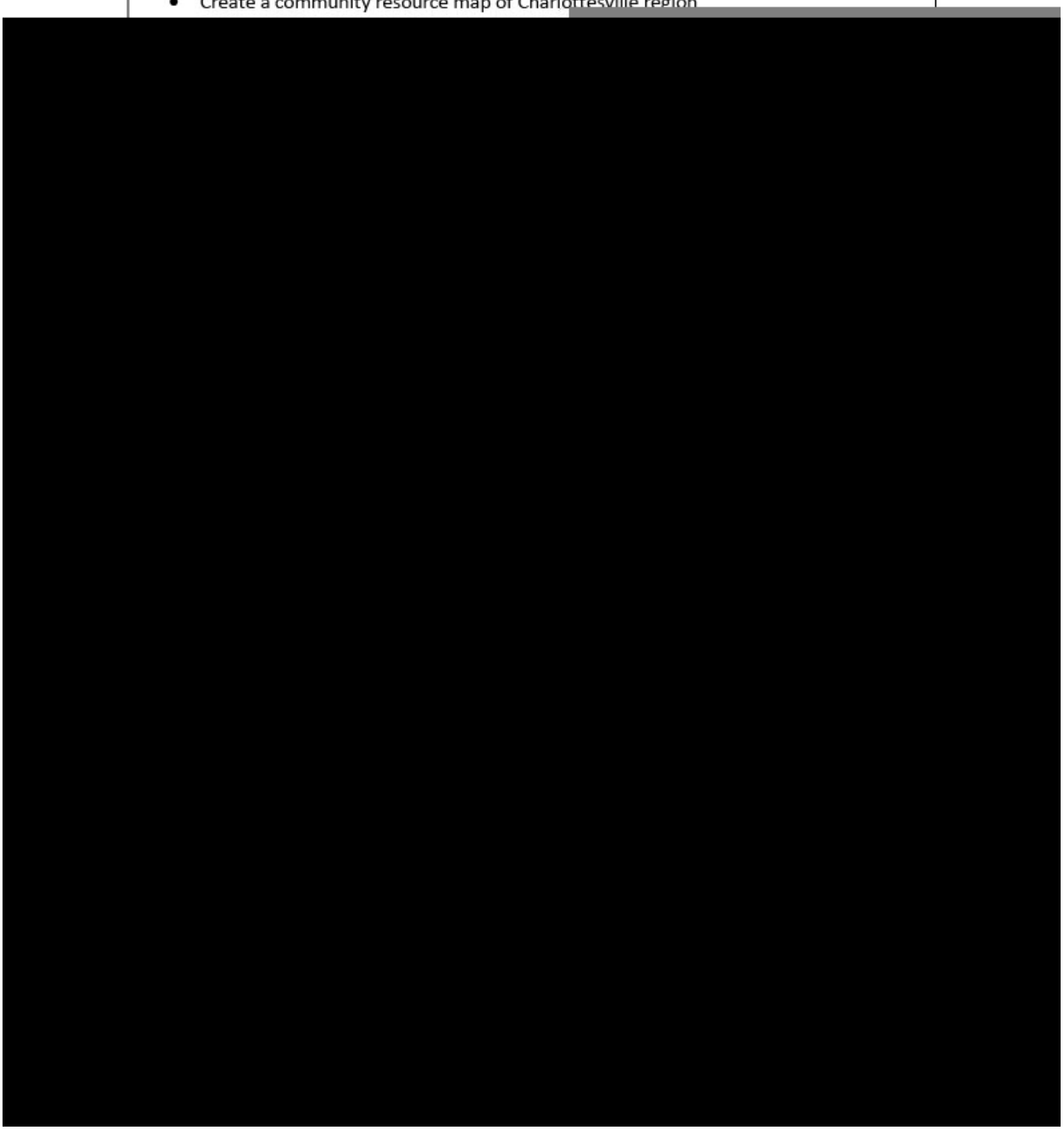


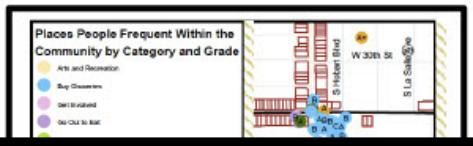
- Advanced disease that is difficult to manage and treat
- Expensive bills from the Emergency Room or Specialist
- Spread of Illness
- Lifetime with chronic disease
- Earlier death



RESOURCE MAPPING

Learning Objectives
• Create a community resource map of Charlottesville region




Places People Frequent Within the Community by Category and Grade
W 30th St
S Hobart Blvd
S La Salle Ave

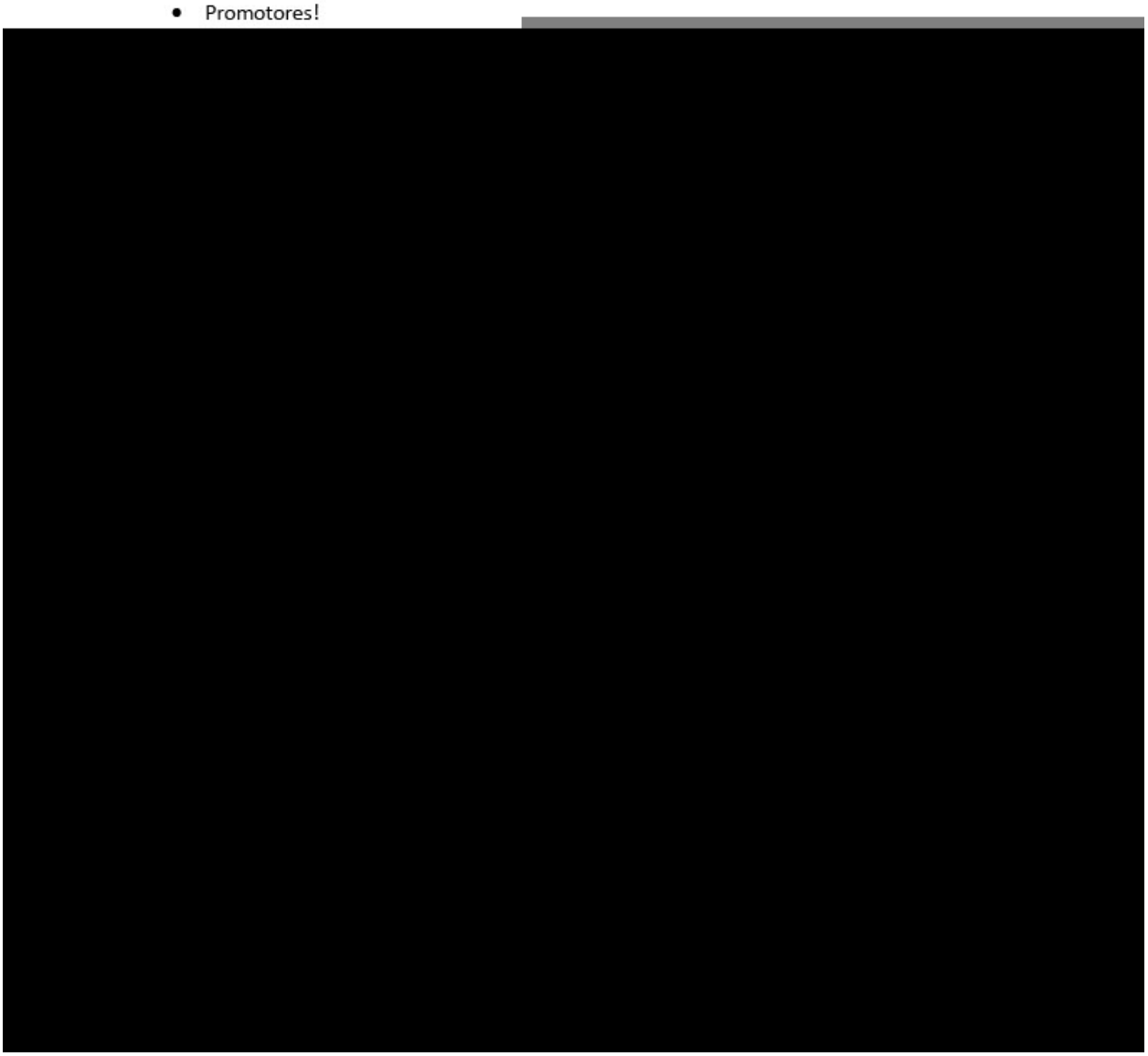
[redacted]

Formal Assets

- Hospital
- Clinic
- Private Clinic
- Library
- Parks and Rec
- Schools
- Academic Center
- Pharmacy

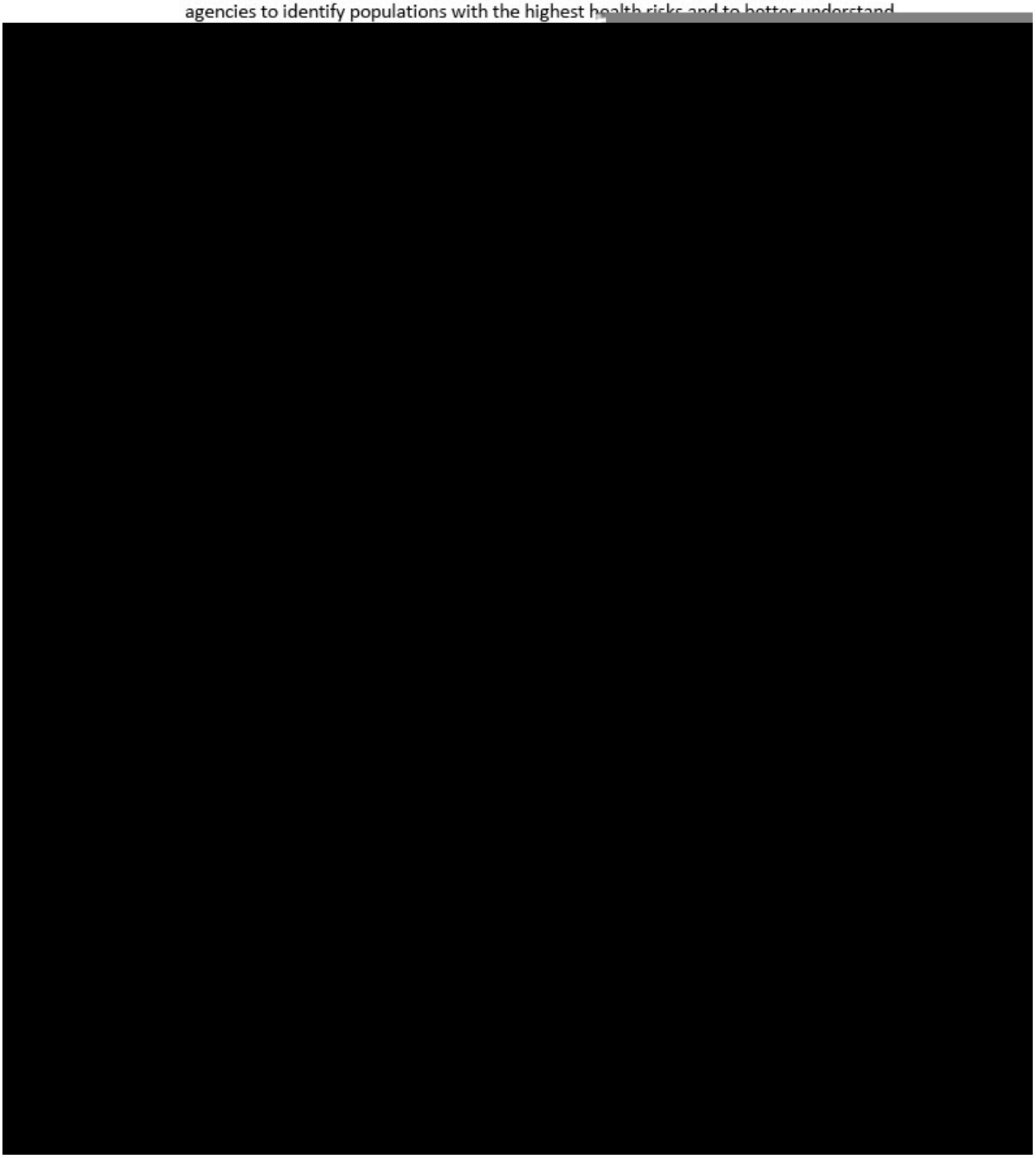
Individual Assets

- Promotores!



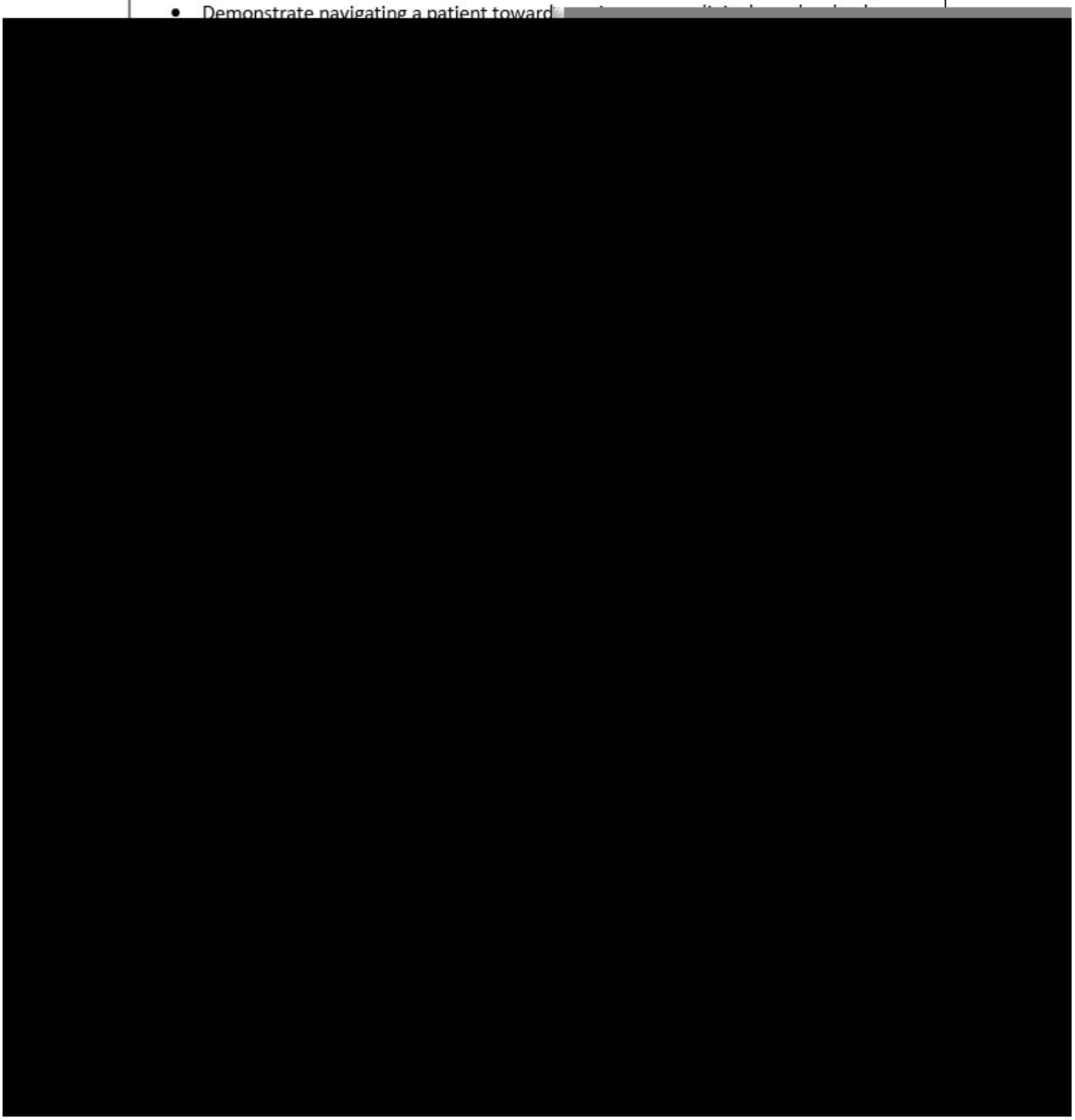
Reinforcement

- Resource mapping is increasingly used by local, national, and international health agencies to identify populations with the highest health risks and to better understand

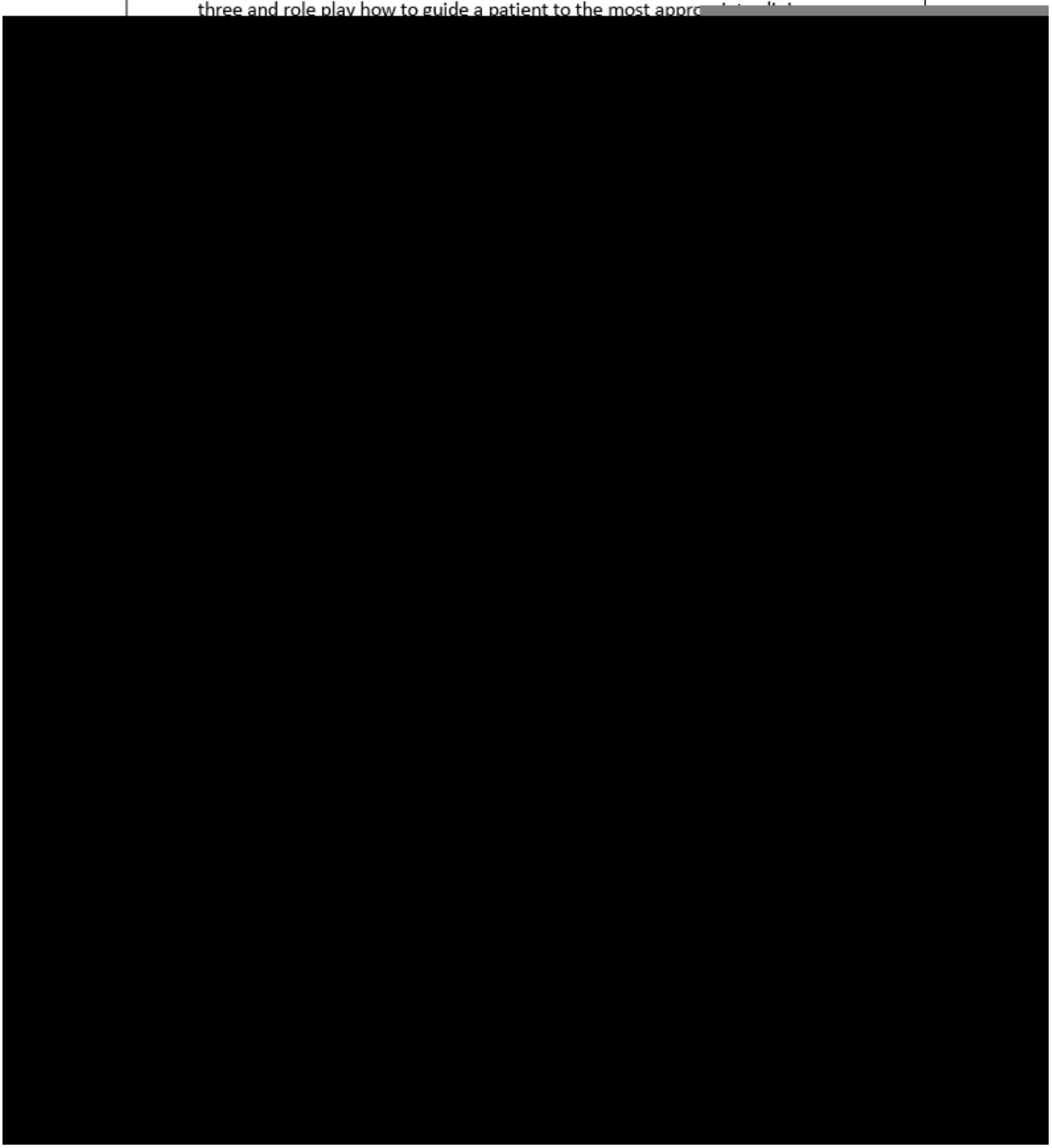


COMMUNICATION

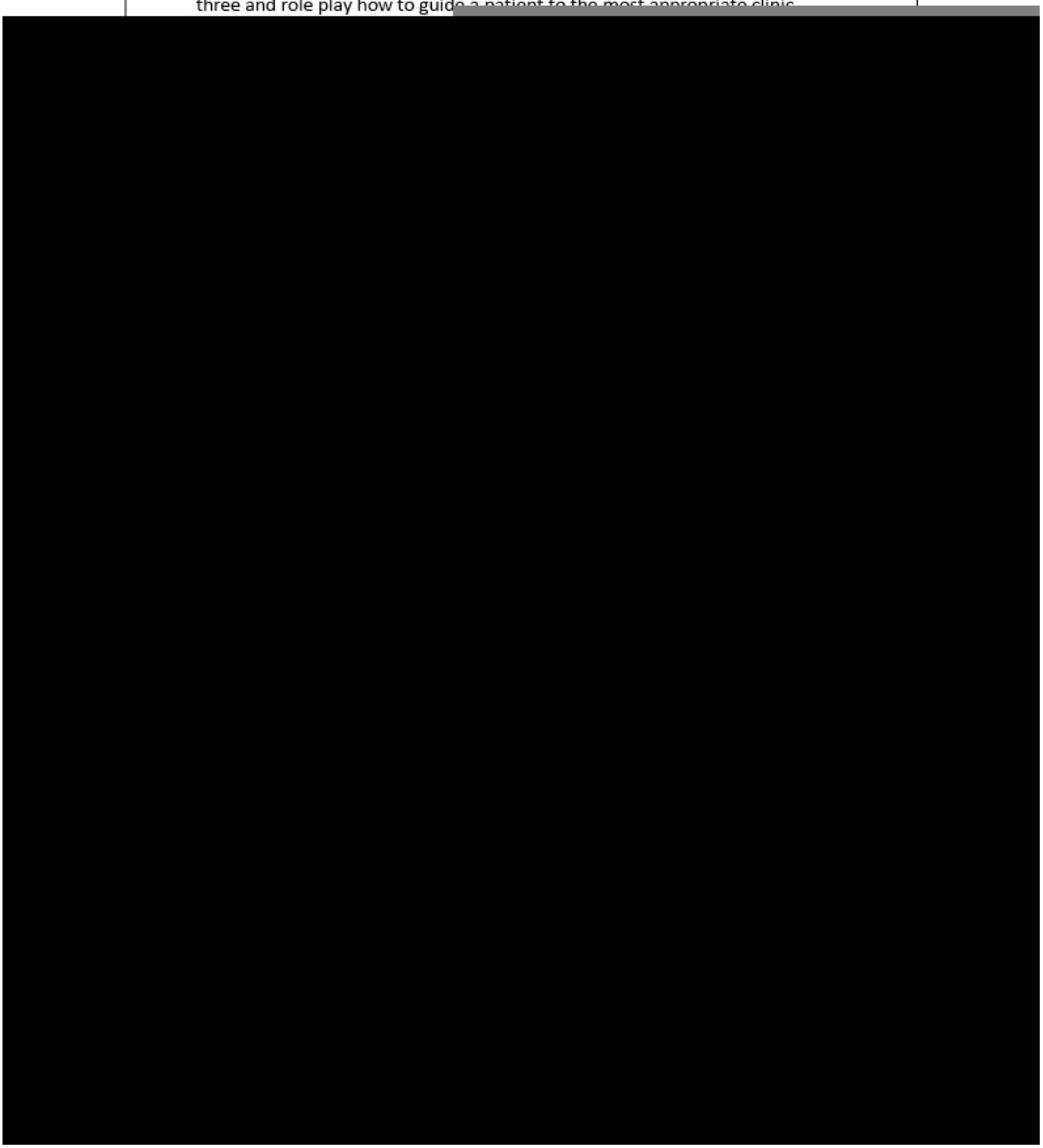
Learning Objectives
• Identify patient identifiers
• Demonstrate navigating a patient toward



Activity: Role Play
• Using the Communication Lesson and Resource Mapping, we will divide into teams of three and role play how to guide a patient to the most appro

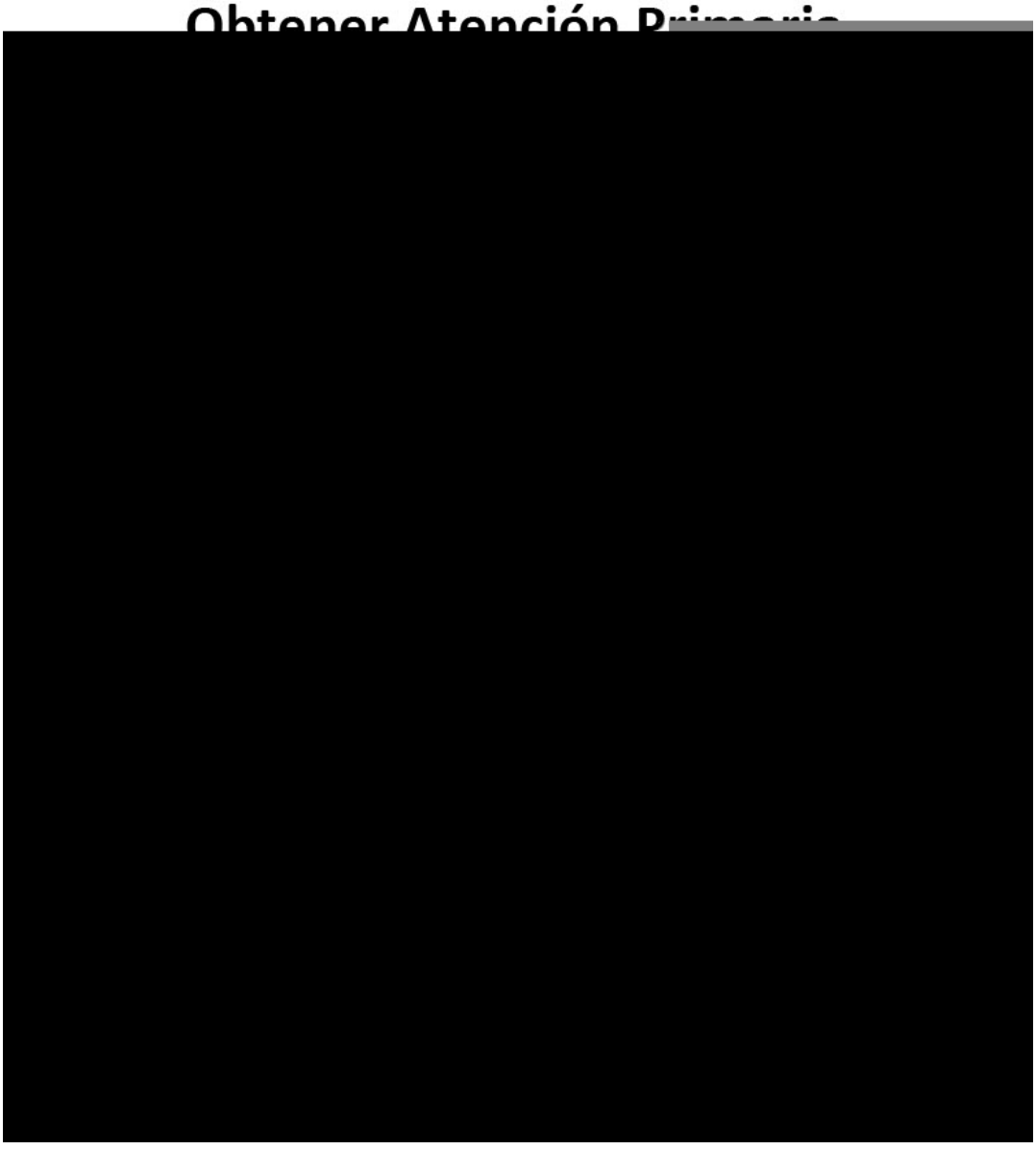


Activity: Role Play
• Using the Communication Lesson and Resource Mapping, we will divide into teams of three and role play how to guide a patient to the most appropriate clinic.



TRAINER GUIDE

Guiar a la Communidad a Obtener Atención Primaria



TRAINER GUIDE

Las pruebas son para provar si la informacion si recibio en el cursillo permite a las promotoras a guiar a personas de la comunidad a consequir servicios de salud.

No ha

[redacted]

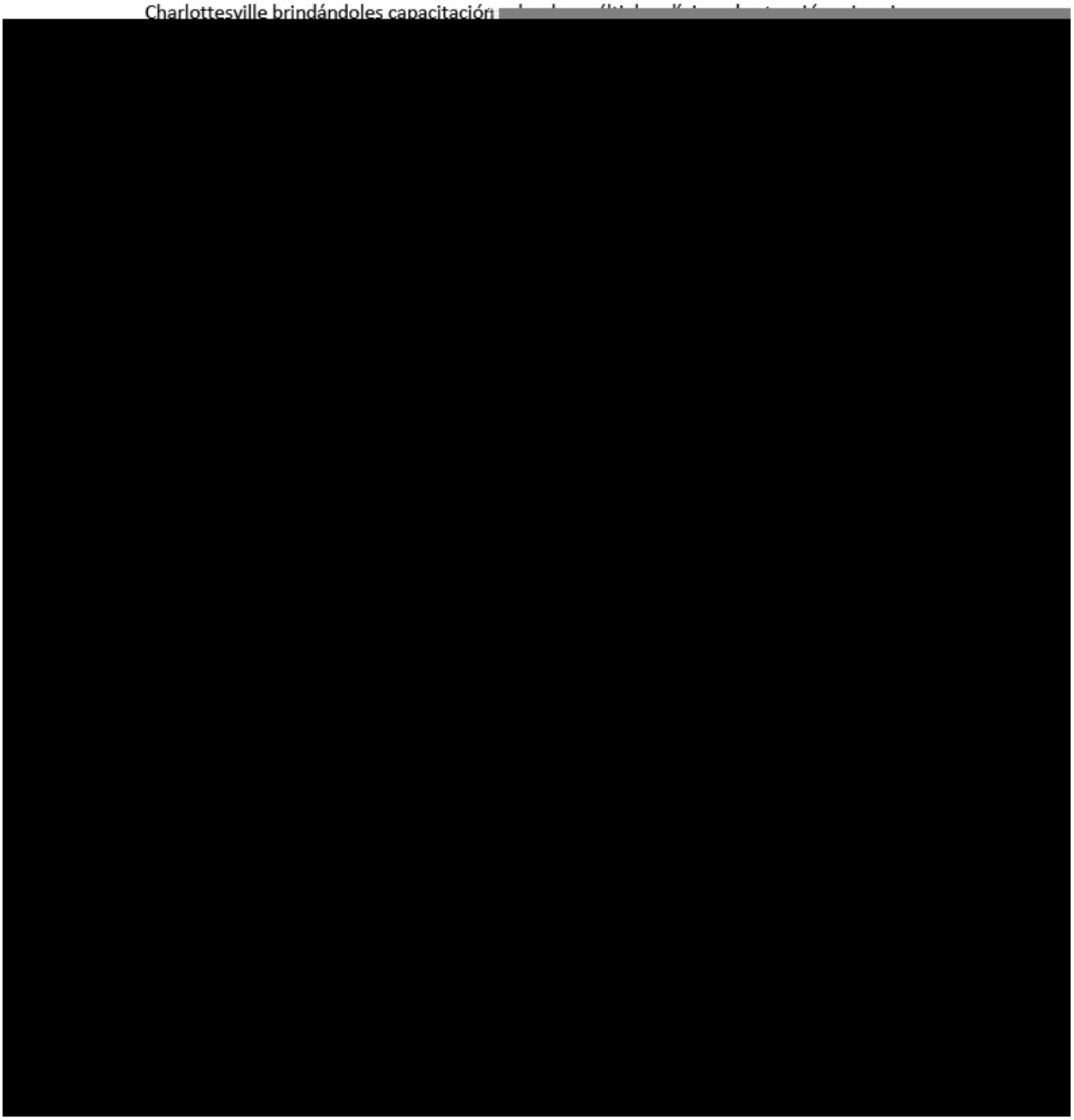
TRAINER GUIDE

6:30-6:40

INTRODUCCIÓN

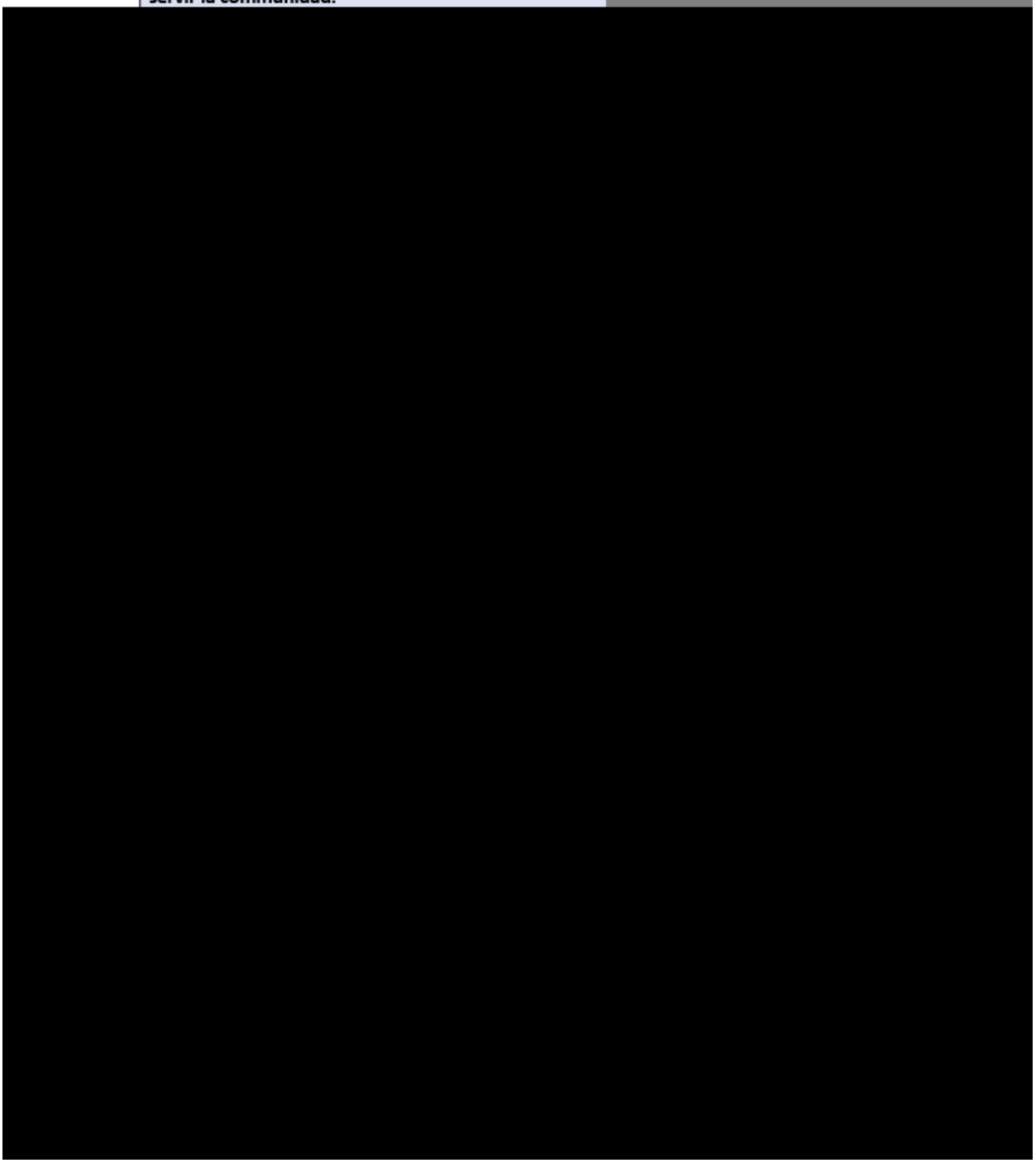
Propósito del proyecto

Hoy nos estaremos concentrando en desarrollar la capacidad de las Promotoras de Charlottesville brindándoles capacitación



TRAINER GUIDE

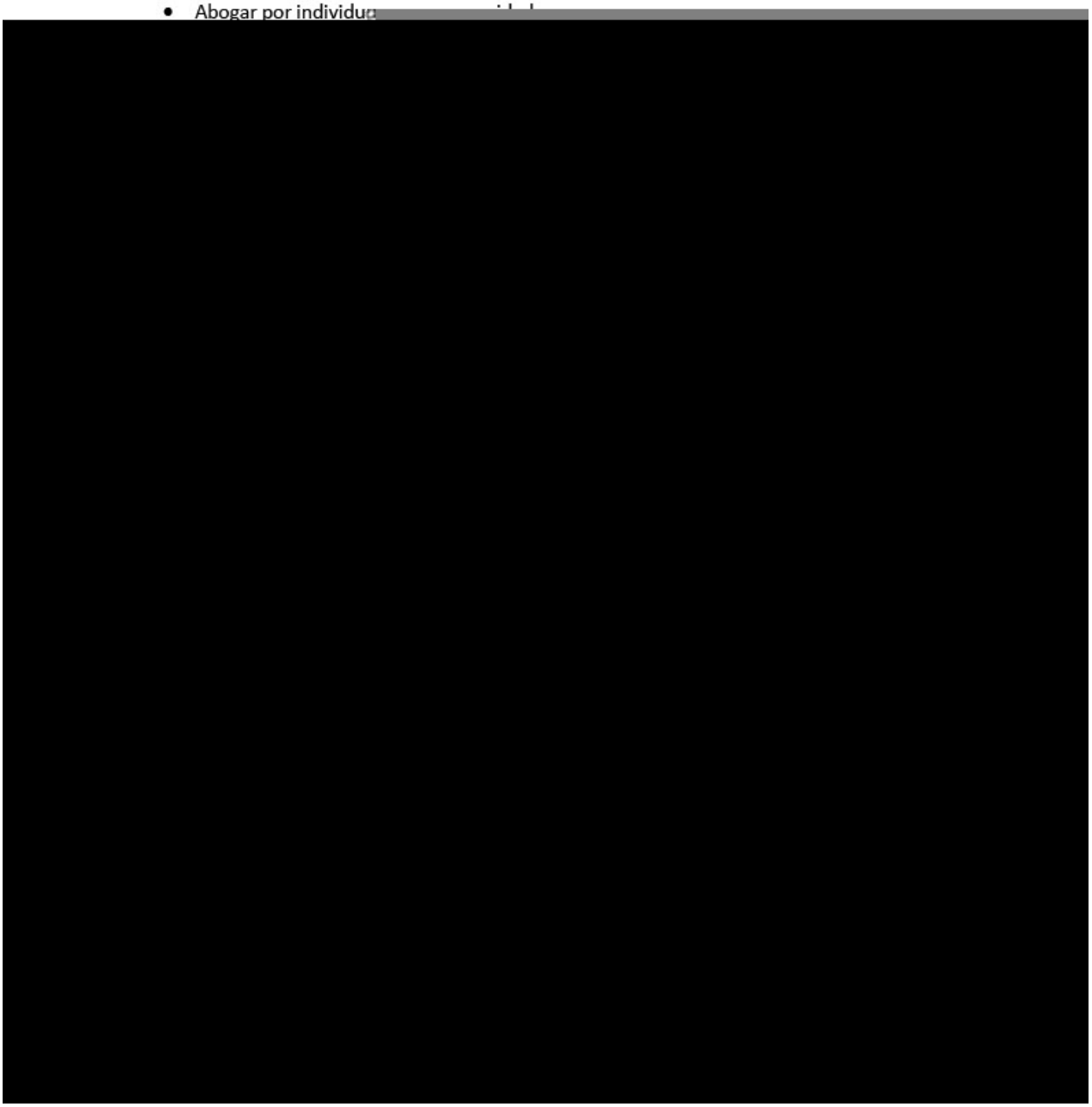
Quiero a pasar nuevo informacion de el groupo nacional de C3- de Promotoras y Community Health Workers- de los nuevos roles y habilidades para Promotoras para servir la communidad.



TRAINER GUIDE

Roles de Promotores

- Mediación Cultural
- Educación para la salud
- Coordinación de Cuidados de Salud y Orientación sobre los Sistema de Salud
- Aconsejar y proveer apoyo social
- Abogar por individu



TRAINER GUIDE

Atención Primaria

6:47-
7:02

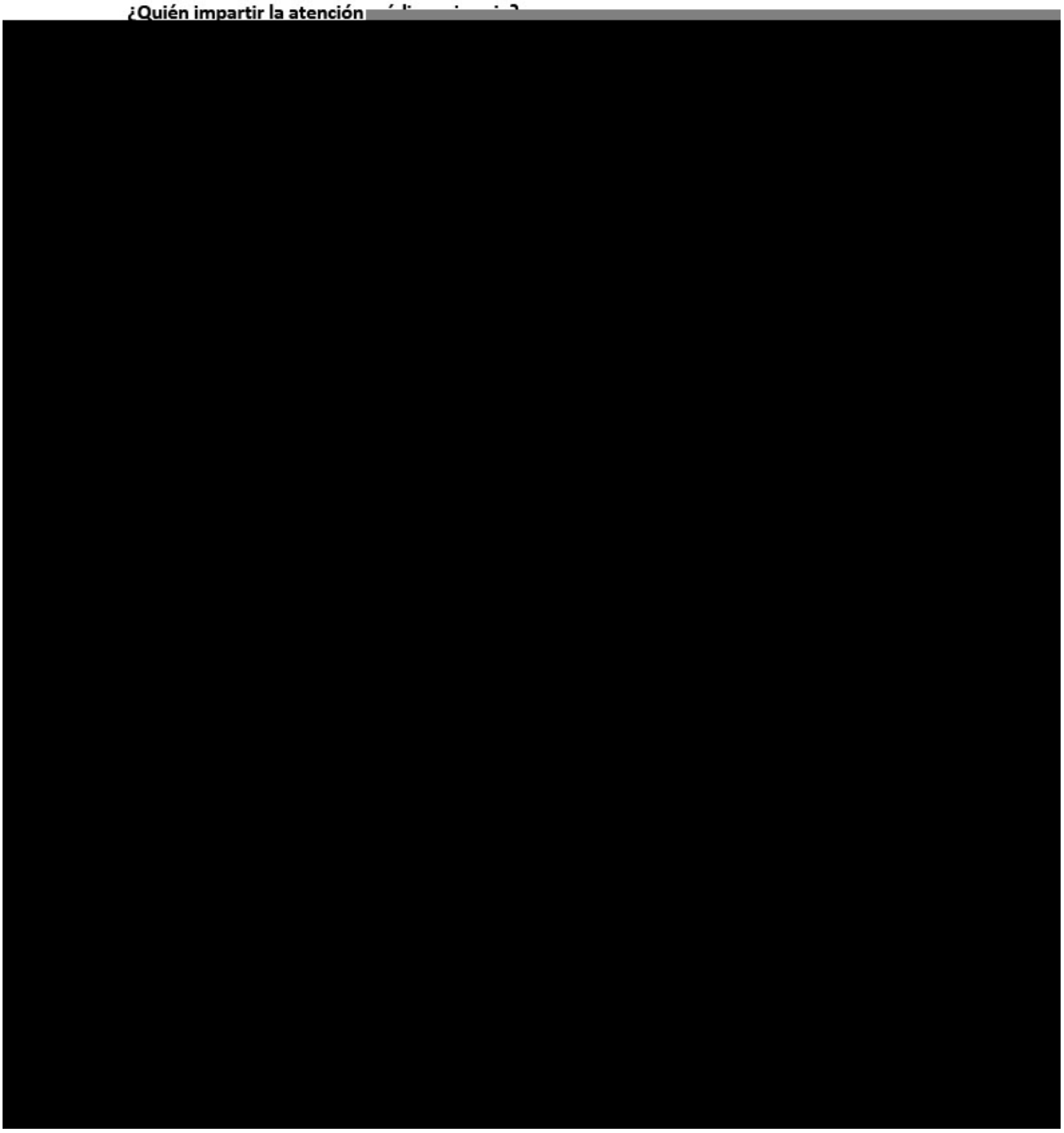
Componentes
• Describir los components de la atención primaria.
• [redacted]

[redacted]

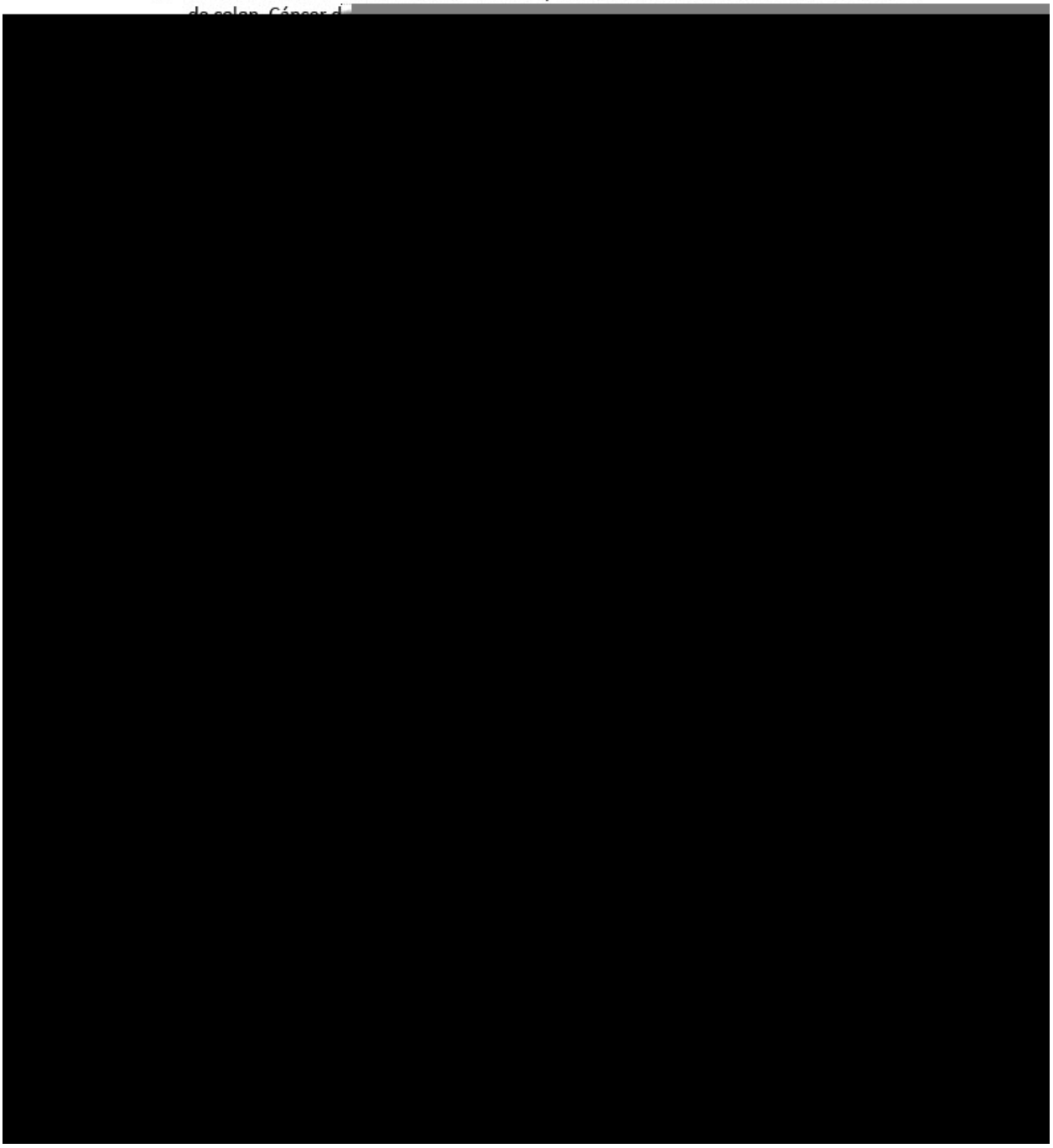
opuesto es verdad, si vamos a el atencion primaria vamos a tener una vida mas larga, y vamos a vivir por mas anos)

- Para tratar las enfermedades a tiempo
- Para tener una vida saludable

¿Quién impartir la atención

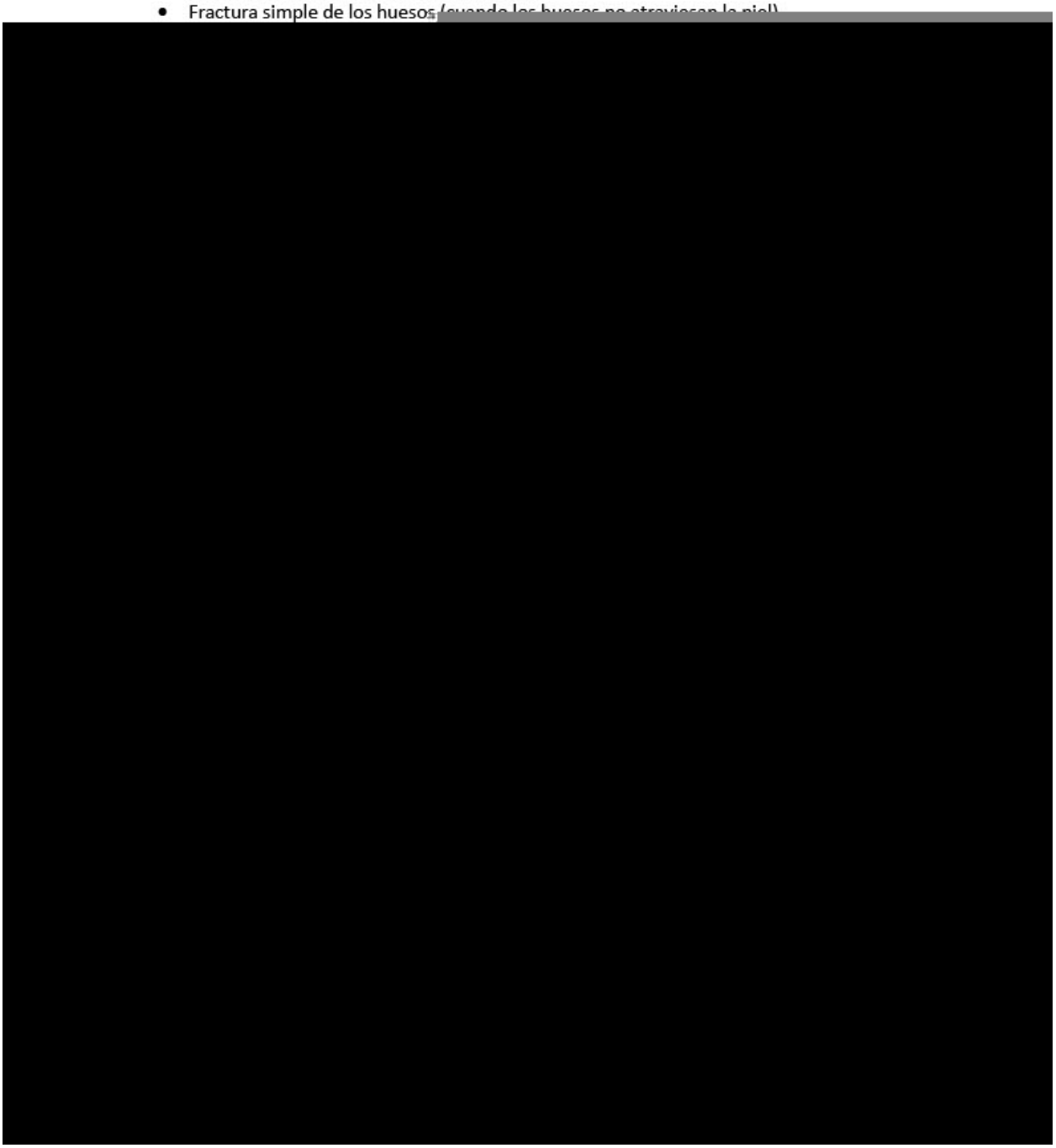


- Exámenes normales (Revisión de glucosa en la sangre)
- Condiciones crónicas de salud
- Manejo de medicamentos
- Pruebas de salud- Enfermedad cardíaca, Hipertensión, Colesterol alto, Diabétes, Cáncer de colon, Cáncer d



Una atención de emergencia también es requerida para emergencias por lesiones menos graves.

- Quemaduras menores
- Cortaduras que requieren sutura (puntos)
- Fractura simple de los huesos (cuando los huesos no atraviesan la piel)



TRAINER GUIDE

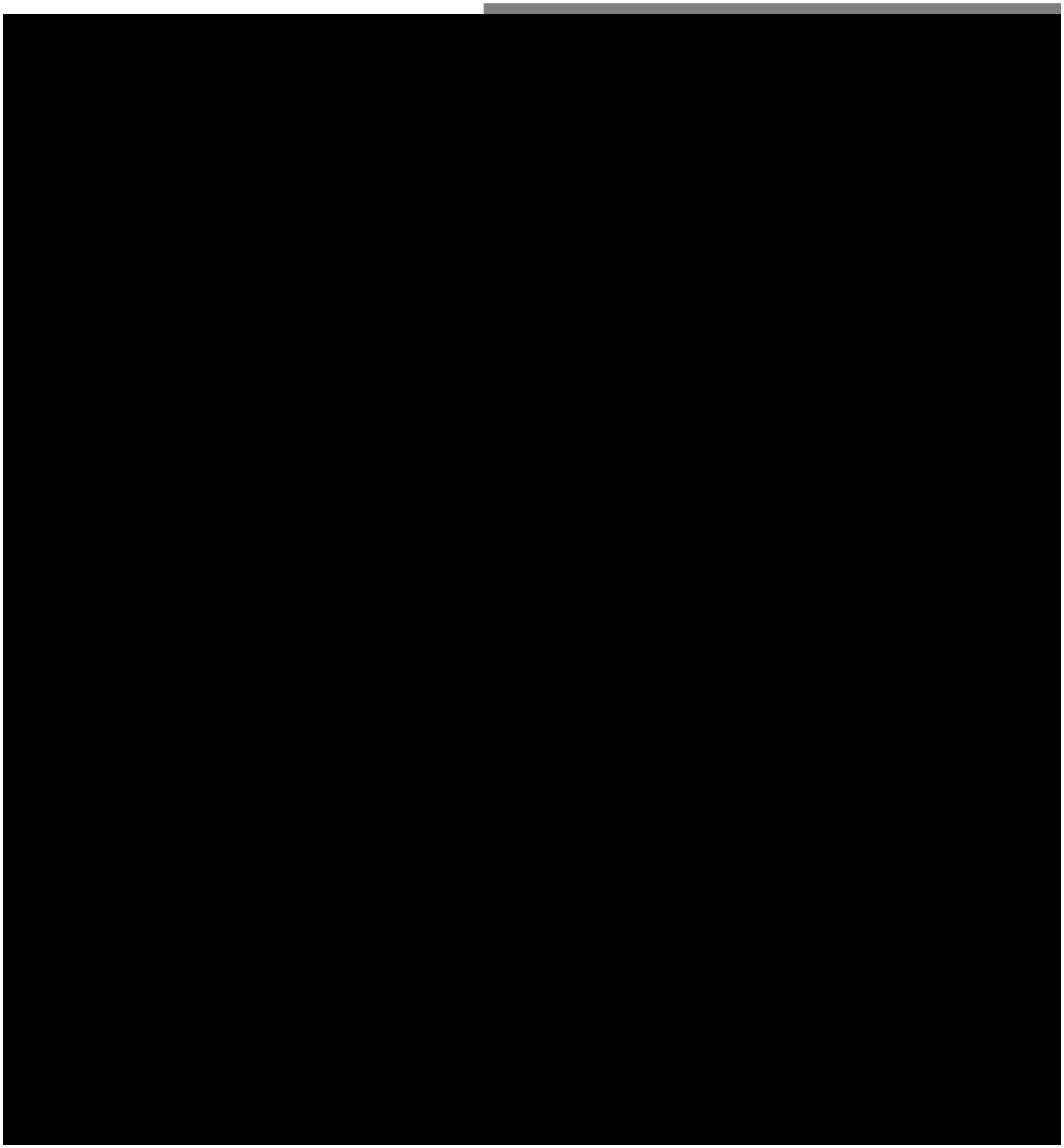
- Miedo
- Transportación

Transition
- Hay muchos barreras y entonces vamos a hablar de como puede a romper las barreras - Y Tambien hay muchos recursos en Charlottesville

[redacted]

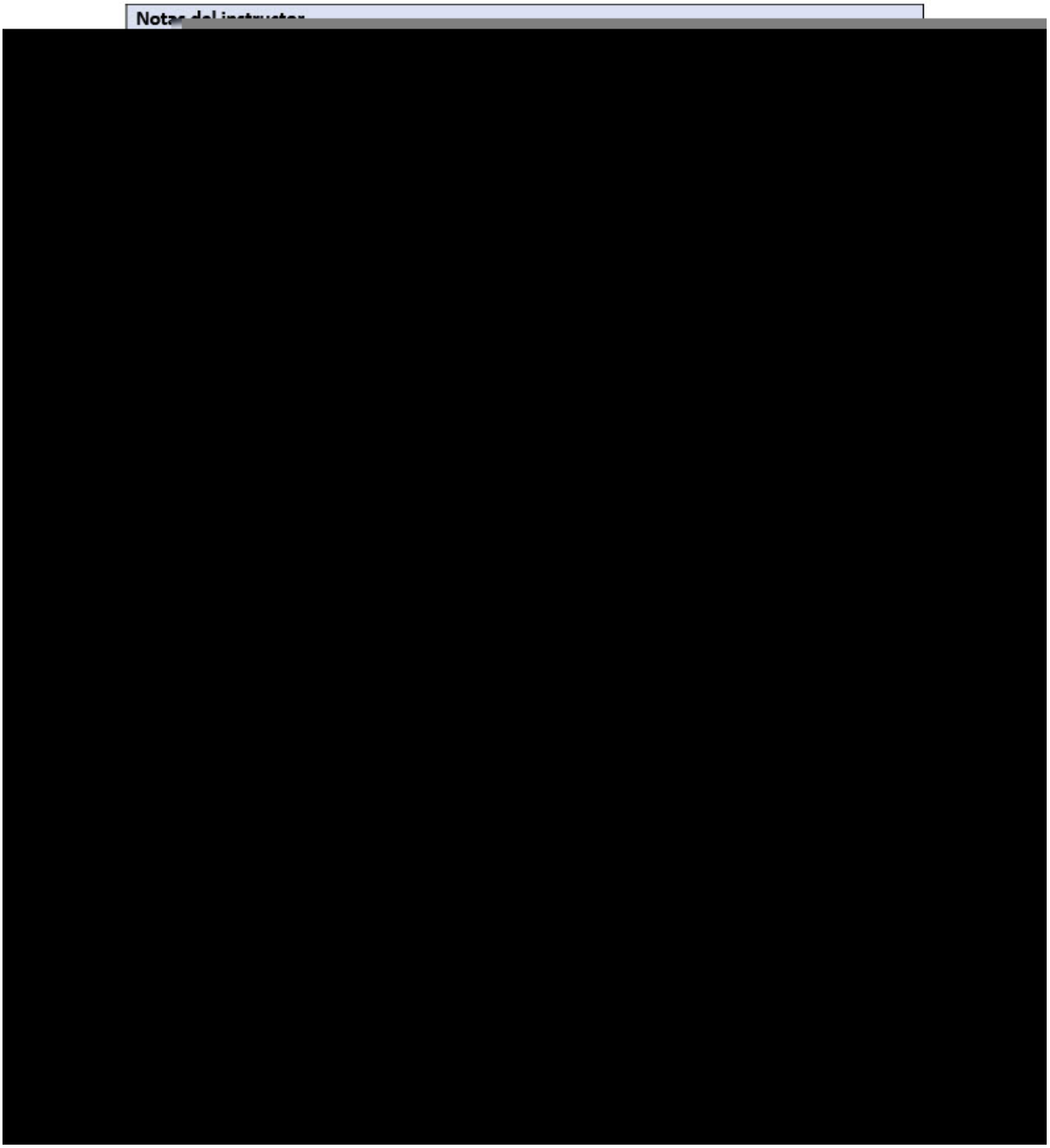
Introducción a los mapas de recursos

- Los miembros de la comunidad conjuntamente crean un mapa de recursos identificando y suministrando información acerca de los recursos de su propia comunidad en un mapa.



- "Un lugar o programa positivo que hace que la comunidad sea un buen lugar para vivir, un lugar seguro y sano".
- Puede haber recursos a nivel informal, formal, individual y comunitario

Notas del instructor

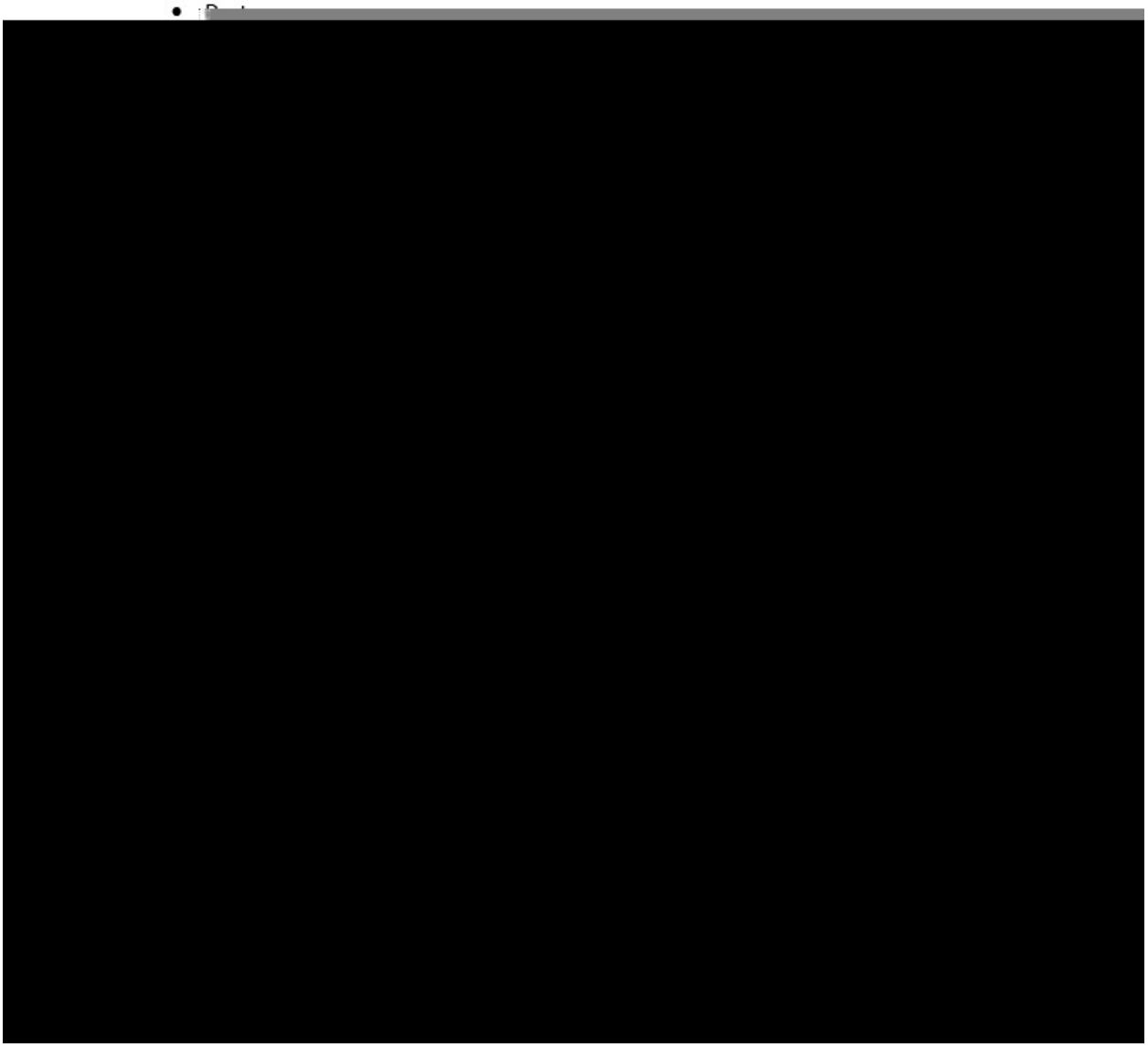


TRAINER GUIDE

- Hospital
- Clínicas
- Clínicas Privadas
- Bibliotecas
- Parques y Recreación
- Escuelas
- Centros Académicos
- Farmacia

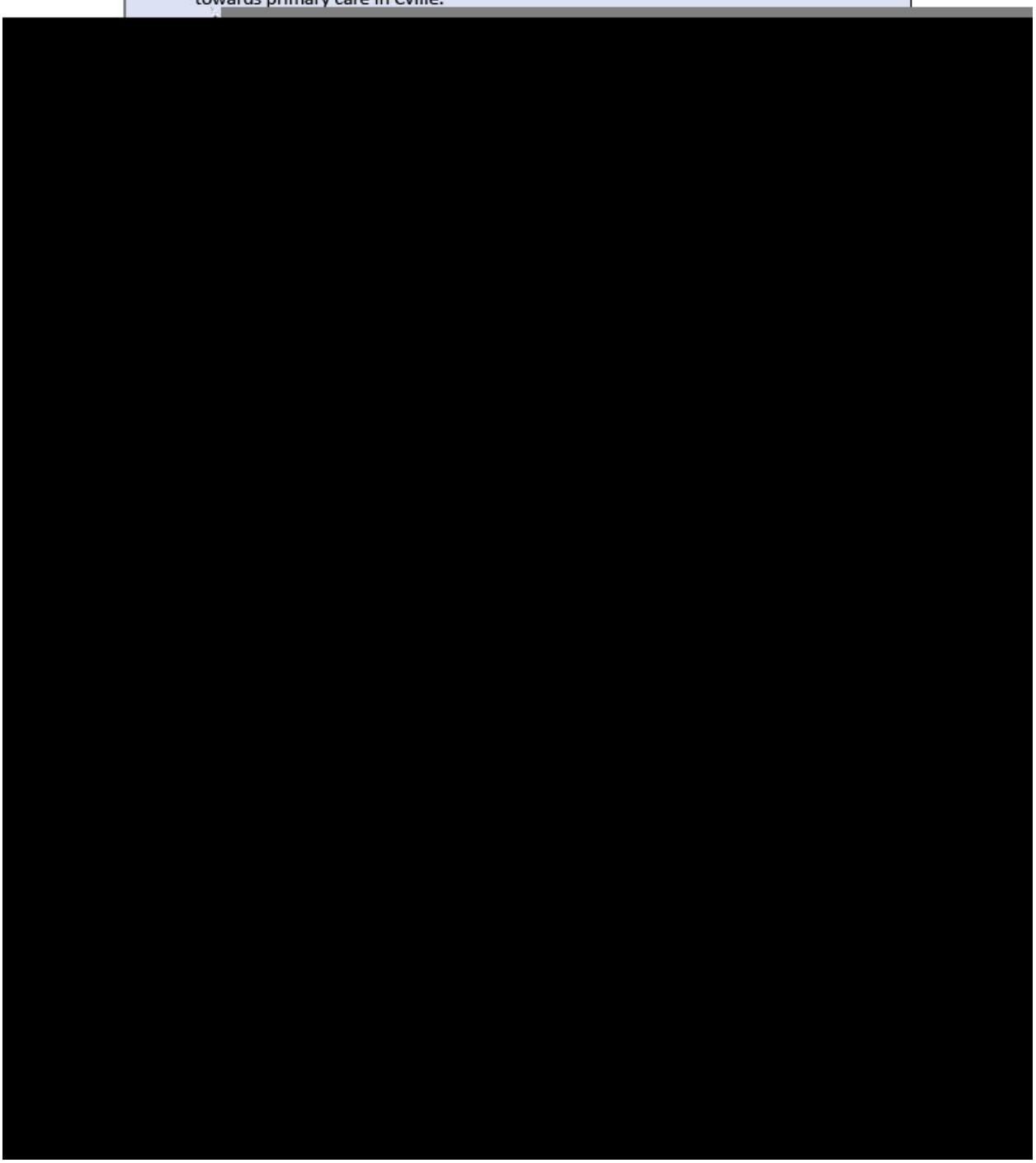
Recursos de Personas

- Promotores de Salud
- [redacted]



TRAINER GUIDE

- Today we are going to focus on Clinics that can provide primary care. Discovering together how to have more information on each clinic about how to guide people towards primary care in Cville.



TRAINER GUIDE

8:05-
8:20

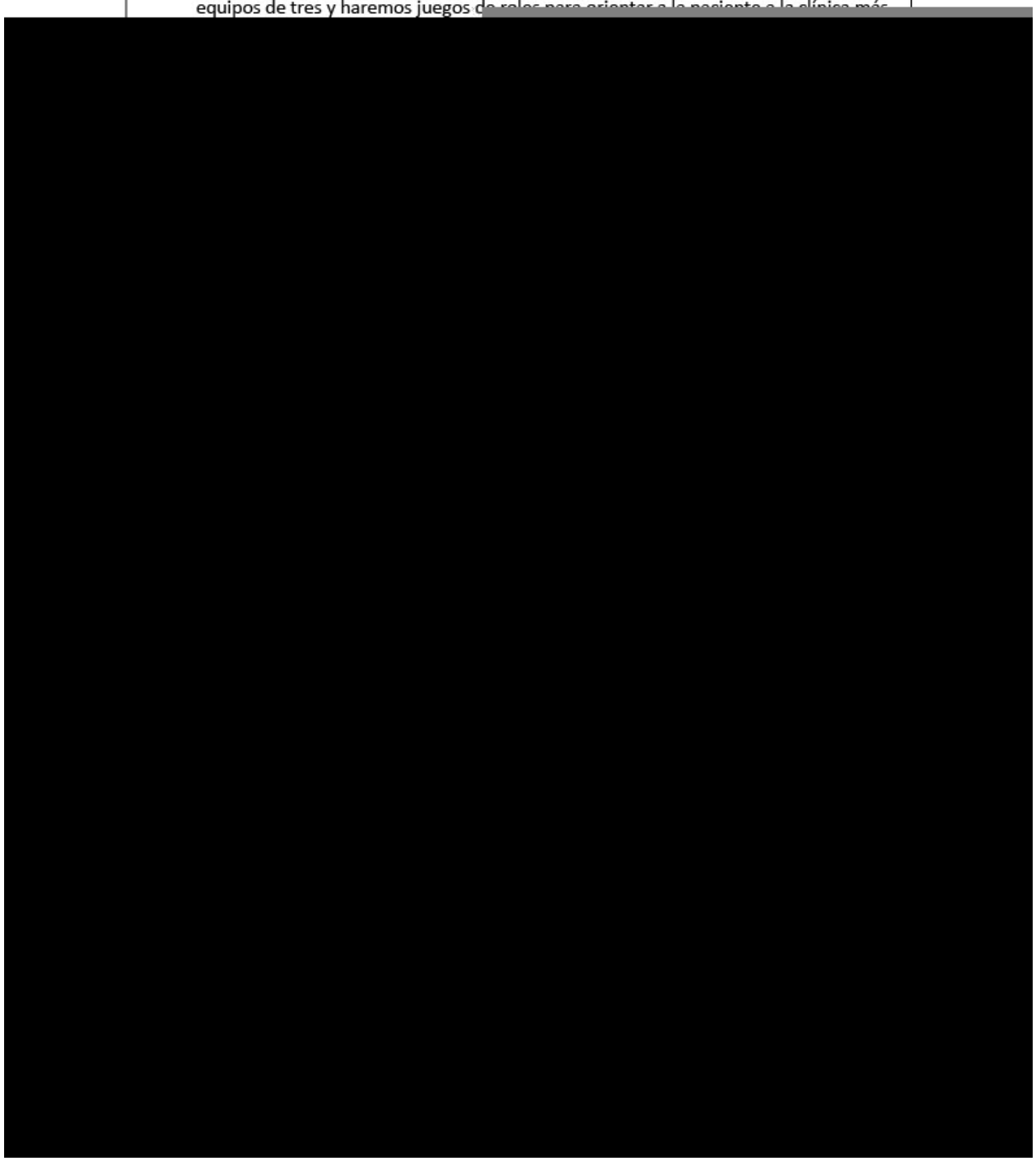
COMMUNICACIÓN

Objetivos de aprendizaje
• Identificar los datos identificadores de pacientes
• Demostrar cómo evit[illegible]

[redacted]

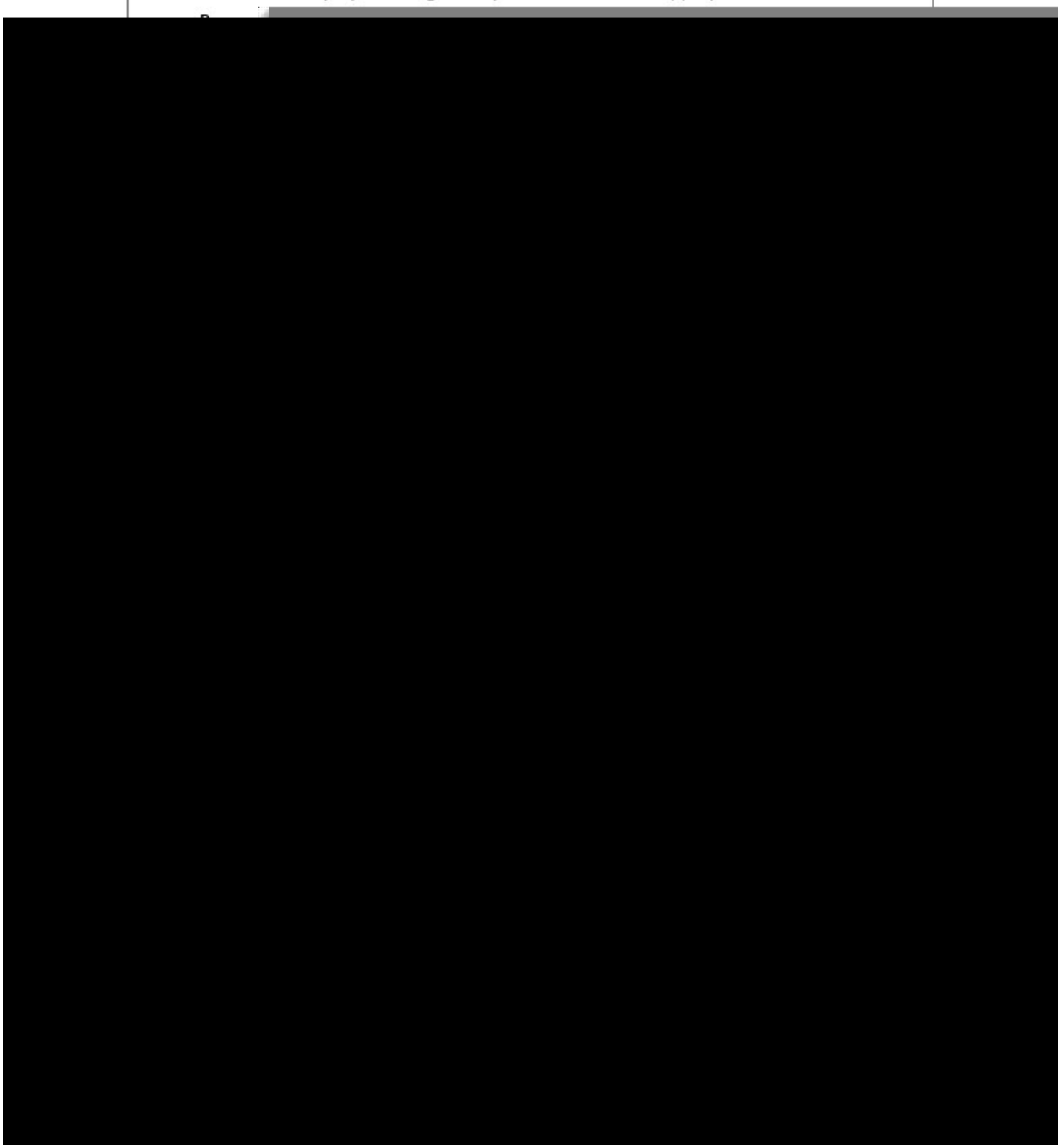
TRAINER GUIDE

Actividad: Juego de roles #2
• Usando la lección de comunicación y los mapas de recursos, dividiremos el grupo en equipos de tres y haremos juegos de roles para orientar a la paciente a la clínica más



TRAINER GUIDE

Activity: Role Play
• Using the Communication Lesson and Resource Mapping, we will divide into teams of three and role play how to guide a patient to the most appropriate clinic.



Perfil de la Organización

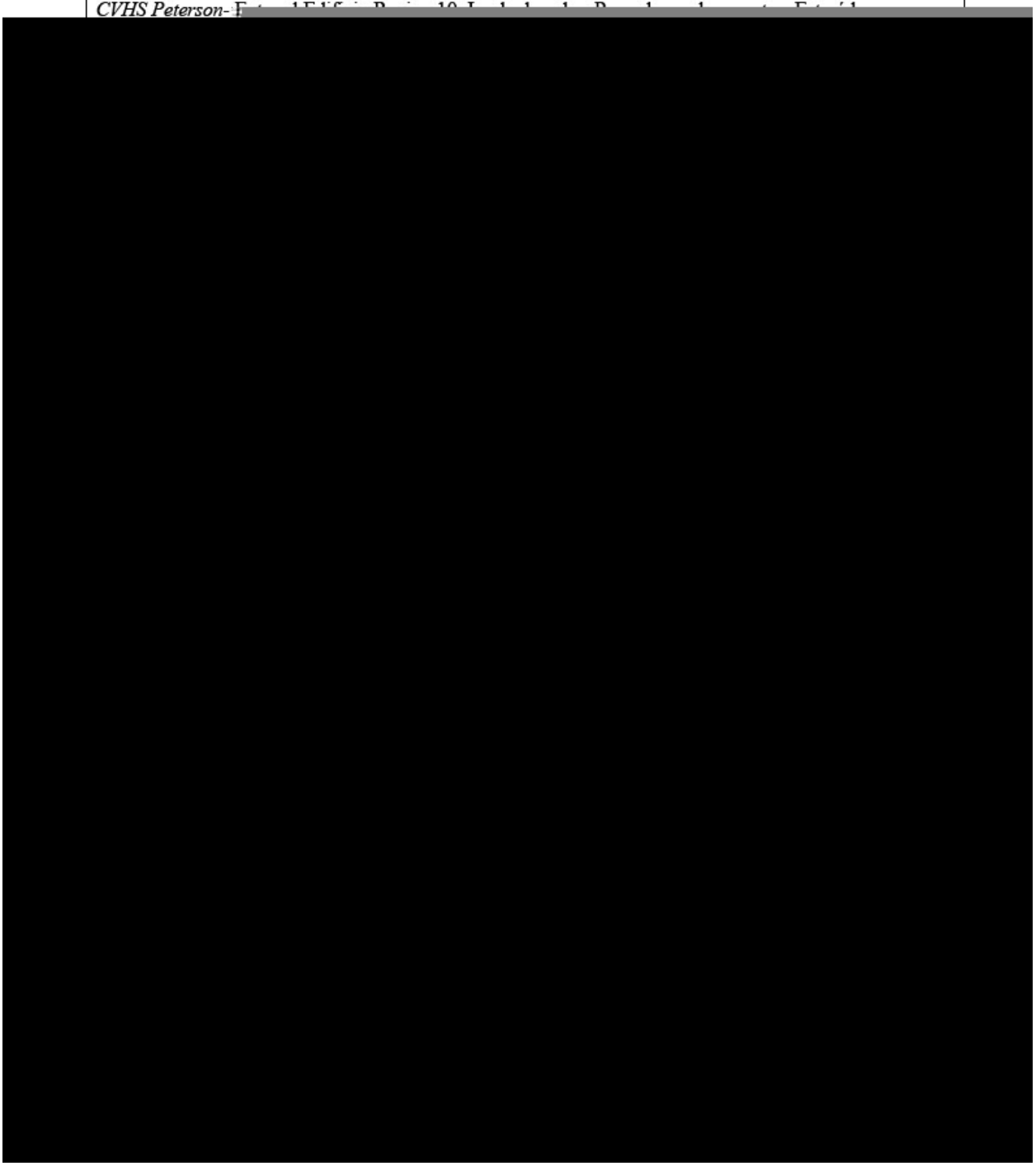
Nombre de la Organización:
CVHS Charlottesville Clinic (Neighborhood Family Health Center)



[redacted]

¿Como puede encontrar la clínica?:
CVHS Charlottesville- No hay un letrero especifico. Entre el estacionamiento a la derecho antes de la luz. Es un edicifio de ladrillo.

CVHS Peterson-



Perfil de la Organización

Nombre de la Organización: Charlottesville Free Clinic (CFC) – Clínica Gratis

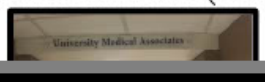
[redacted]

Información sobre Recursos	
Qué Tipo de Organizacíon: √ **Empreso Sin Fines de Lucro** □ Agencía del Gobierno □ Organización de la Comunidad	**Se Acepta Los Tipos de Seguro Médico:** √ **Sin seguros** □ Me

[redacted]

Perfil de la Organización

Nombre de la Organización: UVA- Clínica de University Medical Associates (UMA)



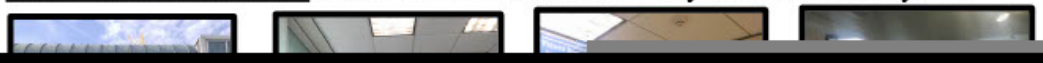
[redacted]

Información sobre Recursos	
Qué Tipo de Organizacíon:	**Se Acepta Los Tipos de Seguro Médico:**
□ Empreso Sin Fines de Lucro	√ **Auto Pago**
□ Agencía del Gobierno	√ **Sin seguros - Asistencia Financiera**

[redacted]

Perfil de la Organización

Nombre de la Organización: UVA- Clínica de Familia / Family Medicine Primary Care



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Información sobre Recursos	
Qué Tipo de Organizacíon: □ Empreso Sin Fines de Lucro □ Agencía del Gobierno	**Se Acepta Los Tipos de Seguro Médico:** √ **Auto Pago** √ **Sin seguros - Asistencia Financiera**

[redacted]

Perfil de la Organización

Nombre de la Organización:

UVA Asistencia Financiera



[redacted]

Información sobre Recursos

Qué Tipo de Organizacíon:

- ☐ Empreso Sin Fines de Lucro
- ☐ Agencía del Gobierno
- ☐ Organización de la Comunidad
- ☐ Organización Informal del Vecindario

[redacted]

Información Adicional
1. Traiga todos sus documentos necesarios para la cita, incluyendo la verificación de su domicilio. 2. Presente su aplicación de asistencia financiera antes de su cita a través del correo o en persona. 3. Solicite servicios de intérp[redacted]

[redacted]

Perfil de la Organización

Nombre de la Organización: **Downtown Family Health**

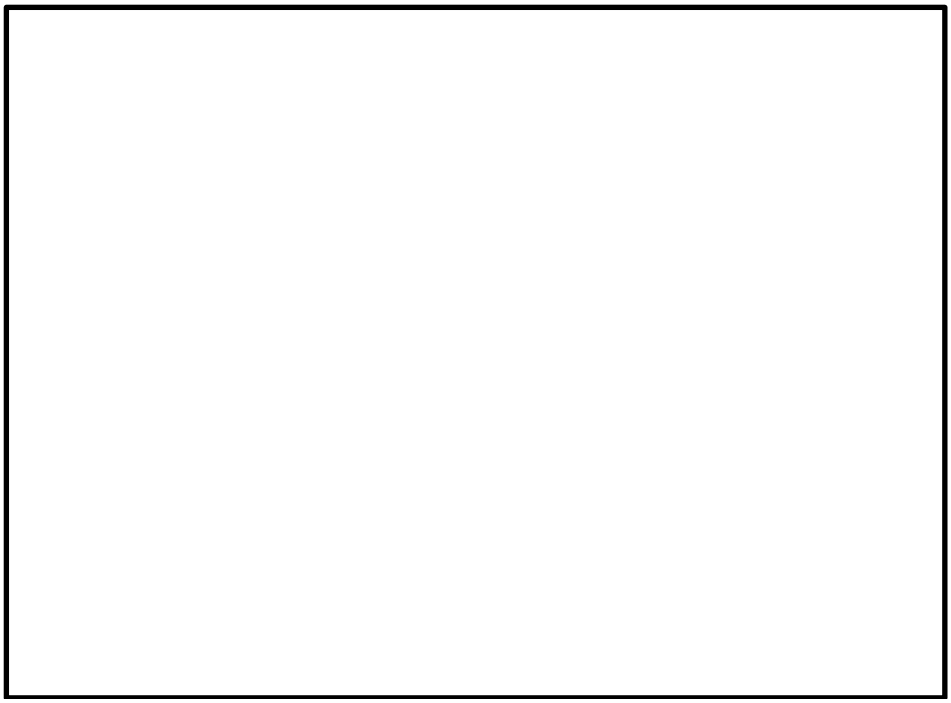
[redacted]

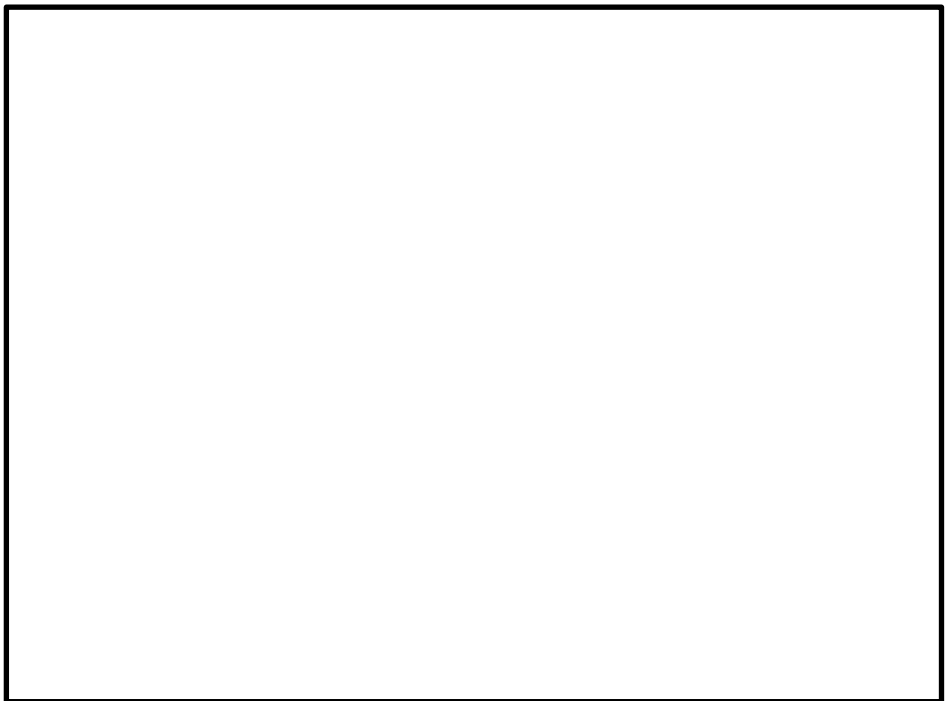
Perfil de la Organización	
Nombre de la Organización:	**Fecha:**
Contacto:	**Título de Contacto:**
Dirección, Ciudad, Estado, Código Postal:	

[redacted]

Que Servicios se Proveen : ☐ Cuidado Primario ☐ Salud Mental ☐ Salud Ginecológica ☐ Pediatri	**Se Sirve a la Clientela:** ☐ Adultos Mayor del 18 años ☐ Niños	**Salud Mental:**

[redacted]





Protocolo 2564: Efecto de un Cursillo de Navegación de Atención Primaria Para Promotores de Salud

Acuerdo de Consentimiento

Por favor, lea esta hoja informativa sobre el estudio con cuidado antes de decidir de