Community Health Worker Certification Program - Motivational Interview, Advocacy, Communication and Conflict Resolution

Stella Antony

University of San Francisco, ssantony@dons.usfca.edu

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Community Health Worker Certification Program - Motivational Interview, Advocacy,
Communication and Conflict Resolution

Stella Antony
University of San Francisco

Committee Chair: Dr. Trinette Radasa
Committee Member: Dr. Jo Loomis
# TABLE OF CONTENTS

## Section I: Title and Abstract

- Title ................................................................................................................................. 1
- Abstract ............................................................................................................................. 5

## Section II: Introduction

- Background....................................................................................................................... 7
- Problem Description ......................................................................................................... 7
- Setting ............................................................................................................................... 11
- Specific Aim ..................................................................................................................... 11
- Available Knowledge ....................................................................................................... 12
  - PICOT Question ............................................................................................................. 12
  - Search Methodology ...................................................................................................... 13
  - Integrated Review of the Literature .............................................................................. 13
  - Summary/Synthesis of the Evidence ............................................................................. 16
- Rationale .......................................................................................................................... 17

## Section III: Methods

- Context ............................................................................................................................. 18
- Interventions .................................................................................................................... 19
  - Gap Analysis ............................................................................................................... 20
  - Gantt Chart .................................................................................................................. 20
  - Work Breakdown Structure ......................................................................................... 20
  - Responsibility/Communication Plan ............................................................................ 21
  - SWOT Analysis .......................................................................................................... 21
- Comprehensive Budget and Financial Analysis .............................................................. 22
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study of the Interventions</td>
<td>22</td>
</tr>
<tr>
<td>Outcome Measures</td>
<td>23</td>
</tr>
<tr>
<td>CQI Method and Data Collection Instruments</td>
<td>24</td>
</tr>
<tr>
<td>Analysis</td>
<td>24</td>
</tr>
<tr>
<td>Ethical Considerations</td>
<td>25</td>
</tr>
<tr>
<td>Section IV: Results</td>
<td>25</td>
</tr>
<tr>
<td>Section V. Discussion</td>
<td>26</td>
</tr>
<tr>
<td>Summary</td>
<td>26</td>
</tr>
<tr>
<td>Interpretation</td>
<td>27</td>
</tr>
<tr>
<td>Limitations</td>
<td>27</td>
</tr>
<tr>
<td>Conclusion</td>
<td>28</td>
</tr>
<tr>
<td>Section VI: Funding</td>
<td>29</td>
</tr>
<tr>
<td>Section VII. References</td>
<td>30</td>
</tr>
<tr>
<td>Section VIII: Appendices</td>
<td></td>
</tr>
<tr>
<td>Appendix A.</td>
<td>37</td>
</tr>
<tr>
<td>Appendix B.</td>
<td>42</td>
</tr>
<tr>
<td>Appendix C.</td>
<td>43</td>
</tr>
<tr>
<td>Appendix D.</td>
<td>57</td>
</tr>
<tr>
<td>Appendix E.</td>
<td>58</td>
</tr>
<tr>
<td>Appendix F.</td>
<td>59</td>
</tr>
<tr>
<td>Appendix G.</td>
<td>60</td>
</tr>
<tr>
<td>Appendix H.</td>
<td>61</td>
</tr>
<tr>
<td>Appendix I.</td>
<td>62</td>
</tr>
</tbody>
</table>
Community Health Worker Certification Program - Motivational Interview, Advocacy, Communication and Conflict Resolution

Abstract

**Background:** Rural residents have health disparities more than urban populations. The significant health inequities in the underprivileged population include a higher incidence of chronic diseases, lack of access to healthy foods, health care, health insurance, unhealthy eating habits, poor socioeconomic status, cultural and language barriers, and lack of health literacy. As locals, Community health workers (CHWs) meet these populations and can improve healthy lifestyle changes and advocate for their community.

**Local Problem:** The population in Fresno and Tulare County in Central Valley, California, is underprivileged, lacks access to proper health care, and has higher rates of health disparities, including chronic health issues. CHWs need training in using practical skills in communication and advocating for their local population.

**Methods:** 16 CHWs participated in the training. Pre and post-module quizzes were used to assess their knowledge with the goal of 10% increases from post-quiz to pre-quiz. The free canvas platform was used for teaching and data collection.

**Interventions included the following:** Curriculum and three teaching modules developed in a free canvas platform with topics including Motivational interviewing, Advocacy, Communication skills, and conflict resolution. Each teaching module includes learning objectives, roleplays, and case studies to solve.

**Results:** The overall percentage difference from pre to post-test ranged from more than the set goal of a 10% increase. Additionally, qualitative surveys from the participants had a common theme of effectiveness in improving the participants' confidence levels.
**Conclusion:** The educational intervention improved CHW's confidence, competency, and ability to practice the MI, communication, advocacy, and conflict resolution skills effectively, which ultimately improved health behaviors and reduced health disparity

*Keywords: community health workers, lay health workers, home coordinators, motivational interviewing, conflict resolution, advocacy skills.*
Community Health Worker Certification Program - Motivational Interview, Advocacy, Communication and Conflict Resolution

Background

The rural population accounts for 15% of the total number of people in the United States of America (USA) (The Centers for Disease Control and Prevention [CDC], 2019). According to the Health Resources and Services Administration (HRSA, 2022), rural populations are people who live in rural areas that are not urban. HRSA (2022) considers the term "rural" to include all people, housing, and territory not within an urban area. Rural residents have a higher risk of health disparities than urban populations (CDC, 2022).

The United States Census Bureau (2018) revealed that Latinos are the most significant ethnic or racial minority in America, making up 58.9 million people or 18.1% of the total population. As of 2010, the largest minority group in rural areas is the Latinos, adding up to 9.3 percent of rural populations (Housing et al. [HAC], 2012). Over one-quarter of the US population will be Latino by 2060 (Figueroa et al., 2021). The significant health inequities in the underprivileged population include a higher incidence of chronic diseases, lack of access to healthy foods, unhealthy eating habits, lack of access to health care, poor socioeconomic status, lack of health insurance, cultural and language barriers, and lack of health literacy (CDC, 2019).

Problem Description

Six in ten Americans live with at least one chronic disease, such as cancer, heart disease, or diabetes (CDC, 2019). In the US, the main demographic contributing to these chronic disease cases is the Latinx minority group (Vega et al., 2009). The critical lifestyle risk factors associated with chronic disease are tobacco use, poor nutrition, lack of physical activity, and excessive alcohol use (CDC, 2022). These preventable chronic health issues in the rural population are the
leading driving force of increased mortality, disability, and healthcare costs in the USA (AJMC, 2021). According to the CDC (2022), 90% of national healthcare costs are used to manage chronic and mental health conditions. Furthermore, low health literacy is associated with higher healthcare utilization and costs (Haun et al., 2015).

Low health literacy rates in Hispanics impacts their ability to make critical health decisions. An exploratory study by Becerra et al. (2017) used the California health interview survey to learn about the critical determinant of low health literacy in the minority immigrant Hispanic population. Becerra et al. (2017) concluded that health literacy factors include poverty, lack of consistent health insurance, and limited English language proficiency. Furthermore, low health literacy inadvertently affects the overall health of the patient. Hickey et al. (2018) found that Hispanic participants scored higher (41%) than white participants (16%) for inadequate health literacy measures. Hence, it is evident that low functional health literacy impacts a patient’s ability to comprehend their healthcare and make important decisions regarding their health and is associated with multiple chronic conditions (Hickey et al., 2018).

Inadequate health insurance negatively affects health and well-being and is the main barrier to access to health care and proper screening. A scoping review by Mondragon et al. (2016) highlighted that the risk of acquiring a non-communicable disease is paired with decreased healthcare access among Hispanics. Hispanics are vulnerable to significant health risk factors such as obesity, tobacco use, teen pregnancy, and substance abuse (Mondragon et al., 2016). Furthermore, the low socioeconomic status of many Hispanics relates to their uninsured rate because employer-based health insurance is the leading portal for health care services in the USA (James et al., 2017). However, the Affordable Care Act in 2014 has reduced this burden, but the knowledge of using the proper resources remains unknown (James et al., 2017).
According to the CDC (2019), rural populations have a higher incidence of unhealthy behavior and tobacco and substance abuse. Several unhealthy behaviors result in poor health outcomes, such as smoking, substance use, lack of exercise, unhealthy eating habits, lack of exercise, and lack of health screening (CDC, 2022). It is evident from the literature that the rural populations have poor health outcomes and face several health inequalities compared to the urban population. Most chronic health issues in rural communities are preventable and manageable with proper and timely interventions, especially by improving healthy behaviors. Early identification, with proper screening that covers educational awareness, utilizing effective communication and advocacy skills to encourage healthy lifestyle modifications and culturally competent support from health care providers would be beneficial in curbing these health inequities in the rural Latinx population.

Community Health Workers

Community Health Workers (CHWs) are a crucial part of the community, providing care, education, and advocacy for residents. CHWs are frequently used for the frontline public health workers serving their local community (CDC, 2019). Other names used for CHWs are "lay health workers, home visitors, Promotoras de Salud, promoters, health advocates, lay health educators, community outreach workers, health coaches, and patient navigators" (CDC, 2019; Bureau of Health Workforce, n.d.). The use of CHWs is not widespread in the USA. Most states, including California, have yet to use the services of CHWs in local communities to their fullest potential. However, these states have a standardized certification program to practice as a CHW (CDC, 2019). However, the CHW workforce has expanded dramatically in the last fifteen years. It has been recognized as public health workers and employed for pay or volunteers across the USA and worldwide (CDC, 2019).
Hispanic communities are often underserved due to a scarcity of culturally and linguistically appropriate programs (CDC, 2019). CHWs connect the underserved population in the community and health care systems (CDC, 2019). Moreover, CHWs are effective in reaching this population due to shared common cultural backgrounds, language, food habits, housing, and economic status. (Balcazar et al., 2011). These healthcare workers can establish trusting relationships and rapport with the community while promoting healthy behaviors (Rosenthal et al., 2010). CHWs have been used in several health promotion programs addressing outcomes such as asthma, hypertension, obesity, cancer screening, infectious disease, and maternal and child health (Balcazar et al., 2011; Kangovi et al., 2017; Perry et al., 2014; Rosenthal et al., 2010). Therefore, introducing CHWs with adequate skills training is crucial in delivering quality service in underserved areas and closing health disparities (Perry et al., 2014).

Motivational Interviewing

Motivational Interviewing (MI) is an evidence-based communication skill that helps alleviate ambivalence associated with behavior change and enhance healthy lifestyle modifications (Magill & Hallgren, 2019). MI has a unique way of communicating and approaching the patients by not educating or suggesting a change but enabling them to express their desire to change and leveraging the change talk into the actual behavior change (Keeley et al., 2016). The core skills of MI include using a technique described by the abbreviation OARS: asking Open-ended questions (O), offering Affirmation (A), Reflective listening statements(A), and Summarizing the conversation (S) (Rosengren, 2018). Literature supports that using MI skills has proven effective in changing high-risk behaviors in community settings (Katigbak et al., 2015). Although initially, MI had been primarily used for substance abuse counseling, there
are other healthcare avenues where MI has been proven effective, such as adherence to treatment or medications, lifestyle modifications, and even mental health realms (Edwards et al., 2015).

Healthcare professionals trained in MI have proven to elicit positive behavioral outcomes in their patients. An experimental study by Edwards et al. (2015) revealed that healthcare providers improved and sustained their knowledge and confidence in counseling abilities after learning brief MI skills. Meta-analysis results showed statistically significant effects of MI in the intervention group of medical care regarding various health behaviors compared to standard treatment in the control group. Statistically significant effect sizes were reported for physical activity, body weight, substance consumption, dental hygiene, willingness to change behavior, treatment adherence, and mortality (Bischof et al., 2021). Additionally, the literature suggests that enhancing the advocacy and communication skills among community health workers would lead to better care rendered to the community, resulting in improved health outcomes (Ingram et al., 2008; Logan & Castañeda, 2020; Reinschmidt et al., 2015; Sabo et al., 2013)

Setting

Save the Children is a global organization with a local chapter operating in the Fresno and Tulare County areas of the Central Valley in California. Collaborating with the University of San Francisco (USF), developed a comprehensive curriculum with the help of Doctor of Nursing Practice (DNP) students to educate CHWs. The population in these two counties is underprivileged, lacks access to proper health care, and has higher rates of health disparities. The Save the Children organization's CHWs serve these counties.

Specific Aim

This project aims to develop, implement, and evaluate a curriculum consisting of toolkits, create a learning platform on canvas, and teach three hour-long class sessions for the Save the
Children organizations’ CHWs about motivational interviewing, advocacy, communication, and conflict resolution skills.

_The Objectives_

1. The CHWs show a 10% increase in knowledge from the pretest scores about advocacy, motivational interviewing, communication, and conflict resolution skills.

2. The CHWs improve their confidence level using the learned skills from the five sessions. A return demonstration of roleplays measure the desired skills outcomes.

3. The CHWs can demonstrate self-efficacy using advocacy, motivational interviewing, communication, and conflict resolution skills.

_**Available Knowledge**_

**PICO(T) Question**

The high rate of health inequities among rural populations, particularly in Latinas, leads to the question, "Among a rural migrant (or Latinx) population, how does the introduction of the Community Health Worker role using motivational interviewing, advocacy, and interpersonal skills improve positive health outcomes and reduce health disparities?".

**Search Methodology**

A comprehensive electronic database search for peer-reviewed English language articles from 2010 to 2022 was performed in PubMed, Scopus, and Cumulative Index to Nursing and Allied Health Literature Complete (CINAHL complete). Keywords and Boolean phrases included _community health worker* OR lay health worker* OR promotoras OR "barefoot doctor" OR "home visitor" AND "motivational interviewing," community health worker OR lay health worker_. Initially, PubMed revealed 37 studies, Scopus yielded six articles, and CINAHL
retrieved 51 results. Furthermore, the search strategy was extended to search the reference list of the chosen study, and a Scopus search of other databases yielded similar study results.

The author used inclusion criteria to narrow the search process, including rural populations, community health worker’s training in MI, and studies conducted in the USA and other countries. This refining process retained 26 studies, within which eleven were selected after duplicate studies were located and removed from the search results. Additionally, the writer used the Johns Hopkins Nursing Evidence-Based Practice (JHNEBP) (Dang & Dearholt, 2017) appraisal tool to evaluate the evidence's quality and strength. Selected and appraised studies were laid out in the evidence table (Appendix C). There were two studies in each level I and level II quality and one nonexperimental level III study with good quality. Five of the chosen studies were level V literature reviews. Lastly, one clinical practice guideline article on level IV of good strength was included.

**Integrated Review of the Literature**

Although there is a paucity of literature regarding Community Health Workers (CHWs) training in Motivational Interviewing (MI), this literature review has identified a few themes supporting the PICOT question and the proposed intervention of educating the CHWs in MI to improve health outcomes in the rural population.

**CHWs’ Role in Rural Areas**

The CHWs are crucial in improving the overall quality of life in underserved and rural populations (Brown et al., 2022; Portillo et al., 2020; Schroeder et al., 2018). Better understanding and knowledge about the risk factors associated with poor health outcomes empower the CHWs to persuade the community residents effectively to adopt a healthy lifestyle and behavioral modifications (Brandford et al., 2019; Brown et al., 2022; Portillo et al., 2020;
Schroeder et al., 2018). CHWs are available within the community in their geographical area, unlike other healthcare providers, which promotes access to healthcare information and guidance readily available and is more convenient to the community residents (Spencer et al., 2010).

Furthermore, Portillo et al. (2020) assert that CHWs provide culturally and linguistically appropriate care as they share a similar background to the locals. Hence, the residents are comfortable and open to sharing their fears and barriers to CHWs achieving healthy life goals. CHWs have many roles in health care improvement in their community. Preventive health care screening, health education, motivation, behavioral change, and lifestyle modifications are the crucial avenues where CHWs play a crucial part (Brandford et al., 2019; Brown et al., 2022; Portillo et al., 2020; Schroeder et al., 2018). A systemic review by Schroeder et al. (2018) revealed that CHWs play various roles in interventions, although they most commonly deliver health behavior education or counseling.

**The Importance of CHWs’ Training**

Proper education and training are imperative in providing quality care to the people. CHWs lack adequate training and certification in several states in the USA (Glenton et al., 2013; Schroeder et al., 2018). Having sufficient knowledge about the health care conditions, contemporary healthcare requirements, screening protocols, communication/counseling skills, and options for healthy choices would equip the CHWs to guide the residents to make an informed healthcare decision (Brandford et al., 2019; Dewing et al., 2014; Louwagie et al., 2014; Portillo et al., 2020; Schroeder et al., 2018). Indeed, it improves overall health literacy in the community, resulting in positive, healthy choices.

Literature supports that the CHW training in MI is crucial to influence the residents to change their high-risk behaviors such as smoking, tobacco use, medication non-adherence, lack
of physical activity, and poor eating habits (Barrett et al., 2018; Brandford et al., 2019; Dewing et al., 2014; Naar et al., 2021; Schroeder et al., 2018). In addition, MI education improves CHWs' role and competency and enables them to provide and execute proper MI techniques (Brandford et al., 2019; Brown et al., 2022; Louwagie et al., 2014; Portillo et al., 2020). Brandford et al. (2019) identified that periodical evaluation, constructive feedback, and refresher MI sessions have proven effective in retaining the learned MI skills. Moreover, CHWs identified that an educational session about MI skills empowered them to be confident and competent enough to face the residents and provide better guidance and motivation (Brandford et al., 2019).

**Impact of CHWs’ MI education on behavior change**

Motivational Interviewing is a practical communication skill used to motivate people to behavior change (Louwagie et al., 2014; Portillo et al., 2020). Educating the CHWs in MI skills to influence the community residents into healthy lifestyles and behavior change could result in an inevitable outcome. The MI techniques are proven effective in reducing high-risk behaviors such as smoking, substance abuse, poor eating habits, and lack of exercise (Barrett et al., 2018; Brown et al., 2022; Louwagie et al., 2014). Similarly, MI is vital in improving preventive healthcare measures such as cancer, tuberculosis, and colorectal screening (Brandford et al., 2019; Brown et al., 2022). Behavioral modification is achieved through proper use and consistent approach of the community members using MI techniques (Portillo et al., 2020). Furthermore, trained CHWs used MI techniques to improve medication adherence, follow-up treatment adherence, and seek timely health care (Louwagie et al., 2014).

**Lower healthcare cost**

CHWs trained in MI skills in rural areas have proven to provide cost-effective services in rural and underserved areas (Brown et al., 2022; Portillo et al., 2020). A resident motivated to
change behavior would follow a healthy lifestyle that minimizes health care costs associated with poor health habits. For instance, proper screening for cancer, decreasing cancer-related complications and death, quitting smoking, reducing lung cancer or other lung infections, and healthy eating habits/ routine exercises lower cardiovascular disease and obesity. Moreover, CHWs use MI skills to improve medication adherence, resulting in better health outcomes and minimizing relapse and frequent hospitalization (Barrett et al., 2018; Brandford et al., 2019; Dewing et al., 2014; Naar et al., 2021; Schroeder et al., 2018). Furthermore, utilizing CHWs trained in MI skills is a proven, cost-effective intervention in which the cost savings could be substantial, given the tremendous healthcare costs associated with modifiable risk factors and complications from chronic health issues (Brown et al., 2022; Portillo et al., 2020).

**Synthesis of Evidence**

This literature review reveals strong and compelling evidence that CHWs trained in MI promote healthy behaviors in the community. However, evidence shows that CHWs need more standardized competency training and certification. Surprisingly, there needs to be more literature about CHWs training in MI and using those skills in the rural population. Also, some studies were conducted in countries outside of the US, such as developed and developing countries. So, there is a considerable need for further research in the US about utilizing CHWs, their training, and the effects of MI skills in the community. Particularly, randomized control studies, as opposed to qualitative studies and literature reviews, could yield higher-level evidence. Although only some of the studies elaborated on how the CHWs were trained to use MI skills, utilizing the prepared scholarly trainer would be beneficial. Lastly, the study participants have various backgrounds, such as counselors, nurses, and the local community social workers, but are generalizable as health care professionals. However, future studies should
include many study participants with similar educational backgrounds to produce statistically significant results with higher quality evidence.

**Rationale**

The conceptual framework for this project consists of two theories: the social cognitive theory (SCT) and the transtheoretical model (TTM). In 1960, Mr. Albert Bandura started the social learning theory, which was developed into SCT in 1986 (Boston University School of Public Health [BUSPH], 2019). The SCT posits that dynamic and reciprocal interaction of the person, behavior, and environment results in learning (BUSPH, 2019) (Appendix D). The SCT constructs explain the health disparity and poor health outcomes in the rural population guided by the literature review (Sun & Lyu, 2020; Tougas et al., 2015). The emphasis on social influence and external and internal social reinforcement is the unique feature of SCT, which aligns with this project as the CHWs are the primary source of social influence and reinforcement in the community (Katigbak et al., 2015). Additionally, personal attributes such as knowledge, motivation, and thinking should be influenced to promote positive behavioral outcomes (Tougas et al., 2015). For instance, CHWs in this project could affect the community resident's health beliefs and attitudes and promote healthy behavior such as quitting smoking, annual health screening, and healthy eating habits.

Similarly, the environmental construct encompasses the involvement of social support, the effect of the person's surroundings, and the barriers it upholds toward behavior change. In this project, the CHWs reside locally with residents, can learn about their environmental factors, and use them to mitigate the barriers and empower them to embrace healthy behaviors as needed. Furthermore, SCT's fundamental construct, self-efficacy, refers to a person's confidence in their
ability to successfully perform a behavior that guides the intervention part of this project: training the CHWs on motivational interviewing skills (Tougas et al., 2015).

A motivational interview (MI) is an effective practical communication skill to alleviate ambivalence related to the change process. The TTM guides CHW's MI skills as they will be aware of the stages of change, meet the residents, and encourage them with their behavior or lifestyle modification (Connors et al., 2013). The TTM developed by Prochaska and DiClemente in the late 1970s evolved through studies examining the experiences of smokers who quit independently versus those who used medical influences. The five stages (Appendix D) in TTM are used in training the CHWs/health care personnel to use the MI skills effectively to promote healthy behavioral changes (Substance Abuse and Mental Health Services Administration. (2021).

Methods

Context

Save the Children (STC) is a global organization collaborating with the University of San Francisco, developing a curriculum to educate community health workers (CHWs) in Fresno, Tulare County, in California. This group project covers several topics; the DNP students teach the CHWs over three semesters using a hybrid model. This project entails teaching motivational interviewing techniques, advocacy, communication, and conflict resolution skills. The primary study participants are twelve home coordinators working for STC and serving these underserved counties.

The role of stakeholders is exponential as they are the project's key players from start to end. The Save the Children organization, University of San Francisco students, and faculty are the partners in initiating and planning this project and implementing the educational session.
They have high power, so keeping them informed periodically is crucial. The study participants and the community residents are the beneficiaries of this project. Furthermore, local authorities, healthcare providers, and schools would be dissuaded by this project’s results even though they may not be involved. As the stakeholders' interests might be either financial gain or prevention of illness, it is imperative to focus on the stakeholders’ interests and convince them to support this project. Also, open communication, individual focus, appreciation, and feedback could aid the change initiative. (Appendix E)

**Interventions**

This DNP project used a hybrid (virtual and in-person) educational model to improve the CHW's knowledge and competency. The DNP scholar developed a curriculum and three teaching modules in a free canvas platform. The first two teaching sessions took place via Zoom, and the last one was an in-person class at USF. Each teaching module included learning objectives, roleplays, and case studies to solve. Pre- and post-assessment quizzes were incorporated into the modules and released on time to avoid learning bias.

**Gap Analysis**

The status from the literature review revealed that the CHWs need more formal training and competency. CHWs working for STC are experienced but have yet to be officially certified. Also, during the interview, STC home coordinators verbalized that they need to learn about specific essential topics and skills, such as MI, advocacy, communication, and conflict resolution skills. Also, they listed several specific points under each main topic planned to educate them. Hence, this developed curriculum improve their competence leading to utilizing trained and competent community health workers to enhance health behaviors/outcomes in the community (Appendix F).
The initial steps were meeting with the stakeholders and assessing the need for this project and the importance of the project details. Meeting the USF faculty, STC representative, and the project coordinator was conducted in the Summer and Fall of 2022. This project's literature review and project planning took place in the summer of 2022. In the fall of 2022, the prospectus proposal and statement of determination were submitted to the USF project committee for approval. Curriculum development, lesson plans, and teaching modules were done in the spring of 2023. Also, the DNP scholar implemented the project by teaching the CHWs in two sessions via a virtual platform and one in-person class from February to May 2023 and completed the data analysis and evaluation after each module and at the end of all the teaching sessions. Finally, the executive summary was presented in fall 2023 (Appendix G).

Work Breakdown Structure

The work breakdown structure (WBS) is crucial for a project's success. WBS visualizes the project flow and gives the project lead a clear picture of the project's trajectory. The WBS for this project encompasses three phases (Appendix H). The first phase of the WBS is curriculum development, in which a literature review took place to find evidence for curriculum development. In addition, talking to the stakeholders guided this DNP scholar in finding the need and approval for the project's implementation. The evidence from the literature review and information from the stakeholders supported the educational curriculum content development in the canvas teaching platform. The second phase of WBS was the implementation of the educational session by providing the classes via a hybrid model using Zoom for the first two sessions and the last one in person. The project evaluation was the final phase in WBS. The data
collection and assessment were done with the help of Qualtrics, Microsoft Excel, and the Canvas quiz data analysis.

**Communication Plan/Matrix**

This project's communication plan (Appendix I) includes an initial meeting with the chairperson and the USF faculty involved with this project to discuss the project's timelines, feasibility, and acceptability. Later monthly meetings with the USF faculty and the project coordinator guided the project's goals, implementation, and outcome measures. The study participants met with the DNP scholar before and throughout the teaching session via Zoom.

**SWOT analysis**

The strengths of this project include utilizing evidence-based MI skills to fill the gap between the community and the healthcare system in improving health outcomes and reducing healthcare costs (Mirambeau, et al., 2013). CHWs are another positive strength of this project since they have a strong connection with the community members and share the same cultural and environmental background. The CHWs are motivated towards this project as a team, and they all share a common interest in upbringing and nurturing the health of their community. Additionally, the STC manager and coordinator supported this project, encouraged the participants to attend the teaching session, and planned the CHWs' work schedule to accommodate the teaching sessions.

The main weakness is that the CHWs have various work experience and educational backgrounds. The training must accommodate all the participants regardless of their background. Other identified project weaknesses are a lack of face-to-face communication, language barriers, and unfamiliar medical terminology from the educators. Also, the use of technology might result in some technical challenges during the teaching sessions.
This project has opportunities to improve the CHWs' role, confidence, and competency. Ultimately, this project will improve the local community's health outcomes. Although CHWs are not widespread in the USA, most states, including California, have not used the CHWs services in the local community to their fullest potential. The Centers for Disease Control and Prevention (CDC, 2015) have identified 14 policy components covering chronic health care services, Medicaid payment for the CHWs services, and CHW certification. Also, the project has a hybrid model of education, which is convenient for the participants and the educator.

The primary associated threat to this project is inadequate government funding (California Association of Community Health Workers [CACHW], n.d). Also, CHWs in California are not required to be certified (CACHW, n.d), which might reduce the participant's motivation to complete the training sessions. Furthermore, several online websites provide training and competency without follow-up refreshers for the community workers resulting in less participation.

**Comprehensive Financial Analysis**

As seen in Appendix K, the total of the proposed budget is an accumulation of the DNP scholars' and the study participants' hourly pay multiplied by the time they spent on this project's development and implementation. All participants receive three hours of training: One DNP student with an hourly rate of $65, One CHW with an hourly rate of $16 (USUS Bureau of Labor Statistics, 2022), and there are 16 CHWs, and one STC coordinator with an hourly rate of $ 45. As one of the teaching sessions will take place in USF, commuting costs to San Francisco are also included. Also, the cost of printing study materials using Chromebooks for virtual training contributed to this budget. After adding all the costs, the total project expense comes to
$4875. These project costs are calculated for the first year of implementation, and the following years may only have project implementation expenses if new CHWs need training.

The central purpose of cost-benefit analysis (CBA) is to assess the possible savings from implementing a project. The CBA guides the stakeholders in choosing a cost-effective and efficient intervention based on limited available resources. As this project aims to reduce Chronic health conditions by improving healthy lifestyle changes, the effectiveness focuses on money saved in managing chronic health conditions in the community. The organizational savings will result from money associated with preventing or avoiding chronic disease by implementing MI skills minus the cost of this project implementation. There are direct and indirect costs associated with chronic health diseases. The main direct costs associated with chronic conditions are frequent hospitalization, prescribed medications, and emergency visits to manage symptoms, which are approximately $6,032 annually for a person (The American Action Forum, 2020). The indirect cost for a person with a chronic disease is associated with their poor-quality life impacting their employment, social life, and education, which is six times more than the direct cost (The American Action Forum, 2020).

For this business plan, assuming one CHW sees a person a year, 16 patients will benefit from 16 CHWs, preventing the incidence of chronic disease and associated costs in the community. The total cost benefit for the first year is $609,709, $709,362, and $744,829 in the following years. The net cost-benefit Ratio for the first year is 137.58% (See Appendix C). Every dollar spent on this project has a benefit of $137.58, reflecting the favorable outcomes based on the savings alone. Furthermore, the effectiveness of this project also contributed by reducing costs associated with CHWs getting certification training and enabling CHWs to be reimbursed
for the services rendered in the community. The overall savings from this project could be used for essential healthcare expenditures in the community.

**Outcome Measures**

The outcome measures and evaluation are the crucial part of a project to evaluate the project's effectiveness. This project evaluated the participants' confidence level, knowledge, and competency before and after each teaching session with a five-point Likert scale survey and pre-module quiz. Additionally, a qualitative survey about the effectiveness of the teaching program and periodical feedback were received. This implementation phase consisted of three teaching modules of an hour teaching session covering various topics: Motivational interviewing, Advocacy, Communication skills, and conflict resolution. The first 30 minutes of the teaching session is educational material, and the last 30 minutes is a competency check of solving case studies and return demonstration by role pay. Furthermore, meeting with the study participants before and after the teaching sessions improved project outcomes.

**CQI Method and Data Collection Instruments**

Data collection instruments such as the Qualtrics survey tool and Microsoft Excel were used to collect and store the data and evaluation. Pre and post-test quizzes were administered via the Canvas platform, and the answers were evaluated via Canvas. Data analysis is primarily done by canvas data analysis tool. Later, tallied data were manually inserted into Microsoft Excel to refine the percentage differences. Additionally, creating a PDSA cycle (Appendix L) guided the DNP scholar to adequately plan and enhance the program's process with the help of feedback to continuously improve the quality of this project in the future.
Analysis

Analysis of the study participants' feedback survey was done after the data collection at the end of each teaching session and after all the module completion. After the survey scores were validated, the scores were compared between the pre and post assessment scores. Additionally, the program's effectiveness was elicited if there was a ten percent increase in the post-assessment from pre-assessment scores. Additionally, the qualitative survey of participants' confidence level in using the learned material and the program's overall effectiveness was collected and visualized upon each module completion and the whole program. The pre and post-assessment data were analyzed separately to avoid any numerical bias on the scores.

Ethical Considerations

This project includes no human research subjects and receives the approval of the USF faculty committee after submitting the statement of determination. All the participants' confidentiality is protected by following HIPAA regulations. Additionally, the American Nurses Association (2015) code of ethics standards has been reflected as this project included health education and health promotion activities of CHWs training to improve community health. Also, the MI skills emerged from an evidence-based practice that supports ANA health promotion standards and evidence-based practice. Moreover, the Jesuit values of "For the greater glory of God" align well with this project as we educate the home coordinators who serve the underprivileged population and help improve their health outcomes (University of San Francisco, 2020).

Results

The participant's knowledge of the teaching modules is depicted by the percentage difference between the post-test and the pre-test, laid out in the bar diagram (see Appendix M,
Table M1 & Figure M2) with the help of the Excel tool. The overall percentage difference for the three modules is 18%, 50%, and 41%, respectively, meeting the target of a 10% change in the post-test compared to the pre-test. The first module's result focused on MI skills is lower than the other two. Furthermore, this could be due to CHWs having less knowledge and lacking previous experience in this new counseling skill, MI. The other two module topics were focused on familiar content such as communication, advocacy, and conflict resolution skills. Therefore, the second and third modules had higher pre and post-test scores than the first. Nonetheless, all three modules' percentage differences prove that the participant's knowledge was increased from the teaching modules.

The first two module's pre and post-quizzes were completed by all the participants (N=12), and the last module quiz had only ten (N=10) participants. The two missing participants should have attended the last teaching module or taken module three pre- and post-quizzes. However, this discrepancy in participant numbers did not significantly change the overall results of this quantitative data.

Additionally, pre- and post-survey before and after the teaching session collected participants' demographic data and confidence levels about the module contents (see Figure M1 and M2). The participants' ages ranged from 25 to 65+ years old; the educational background of most of the participants are bachelor's prepared (N=5), about two CHWs have associate degrees, three of them have a high school diploma, and the other two have no degree or some college. The overall confidence level of learned skills was improved from pre-survey to post-survey. Moreover, CHWs practiced the skills through roleplay and skit performance and verbalized being confident after the session.
Lastly, a qualitative survey question about the effectiveness of all three teaching modules was collected from the participants and the STC coordinator. A word cloud (see Figure M4) from the qualitative question had the central theme of "helpful, confidence, comfortable, effective, using, skills," depicting participants' satisfaction in learning all these topics via nurse-led teaching modules.

Discussion

Summary

Learning skills such as MI, communication, advocacy, and conflict resolution are beneficial in improving healthy lifestyle changes, reducing the health disparity and chronic health conditions in the rural population. This project resulted in improving the knowledge and competency of CHWs in using these nuanced skills in their daily work. Furthermore, this intervention showed significant improvement in CHW's confidence level in practicing these skills as they did roleplay and skit performance in practicing the skills they learned. As the CHWs have a vital role in improving their community's health and well-being, these learned skills enable them to refine their working skills, resulting in better population health outcomes.

Interpretation

This project improved CHW's knowledge and skills and met the goal of a 10 % increase in the post-quiz score compared to pre-quiz scores. By meeting the quantitative goal of this project, the overarching aim/goal of reducing the health disparity and improving the community health outcomes would also be met. Furthermore, the teaching module would enable the CHWs to sit for the national certification in the future and make them efficient in meeting the national health goals.
Limitations

One of the main limitations of this project is having a smaller sample size of 12 CHWs with various educational backgrounds, hindering the project's generalizability. The slight language barrier for the trainer included understanding the content and pronunciation or some technical terms used in Spanish between the educator and participants, which affected the content delivery. The participants had work experiences from zero to decades experience as CHWs, affecting the test scores based on previous knowledge and past work-related training, resulting in some bias. Also, some experienced CHWs dominated the group discussion and return demonstration, leading to biased qualitative data.

Additionally, more than this smaller data collection is needed to compare the interventions. As the overall effectiveness of this project is evident by the continuous use of the learned skills in the community and the reduction of chronic health conditions and health disparity, it is difficult to measure these outcomes, warranting a longitudinal study with larger populations. Furthermore, these skills were taught and measured after completing the teaching modules. The long-term retention of knowledge and skills should be measured by applying these same evaluation tools over several months. Having the knowledge check and evaluation later would provide a better understanding of the project’s effectiveness and success, enabling future researchers to adopt this intervention with a broader perspective.

Conclusion

CHWs play an essential role in improving their community’s health outcomes. Studies suggest that utilizing CHWs could be beneficial for both the providers and the residents. This proposed project of implementing an educational curriculum for CHWs in rural areas would be beneficial in getting their certification. Moreover, this training enhances their confidence level
and improves the outcome in the field. The health care clinics, Medicare, and Medicaid facilities could have the standard practice policies to include CHWs during the discharge planning of a rural patient's healthcare team. Utilizing CHWs should be approved, and policy changes at the state and federal levels could improve the rural population's preventive health services, resulting in lower healthcare costs.

The MI, communication, conflict resolution, and advocacy skills are crucial aspects of behavior change, and incorporating these modules in the health care professional educational curriculum and the workplace refreshers course results in better communication between the provider and patients. Lastly, the lack of funding to support the CHW workforce is a barrier to using their services and training. Generous funding from stakeholders such as the state/Federal government could aid in more CHWS training and support in conducting a higher quality study in the future about CHWs.

**Funding**

There needed to be funding used to implement this project. The incurred cost of supporting this project is from the DNP student. However, the teaching session took place via an online portal, minimizing the significant cost associated with materials. The cost associated with CHWs' travel and paid hours during implementation were taken care of by the STC, a partnering organization.
References


The relationship blog (2016, June 14). *The five stages of change.*

https://www.therelationshipblog.net/2016/06/the-five-stages-of-change/


https://doi.org/10.1371/journal.pone.0134977


https://www.usfca.edu/about-usf/who-we-are/vision-mission


https://www.census.gov/topics/population/hispanic-origin/about.html#:~:text=OMB%20defines%20%22Hispanic%20or%20Latino%20origin%20regardless%20of%20race

Appendix A: Statement of Determination

Doctor of Nursing Practice
Statement of Non-Research Determination (SOD) Form

The SOD should be completed in NURS 7005 and NURS 791E/P or NURS 749/A/E

General Information

<table>
<thead>
<tr>
<th>Last Name:</th>
<th>Antony</th>
<th>First Name:</th>
<th>Stella</th>
</tr>
</thead>
<tbody>
<tr>
<td>CWID Number:</td>
<td>20802883</td>
<td>Semester/Year:</td>
<td>Spring 2022</td>
</tr>
<tr>
<td>Course Name &amp; Number:</td>
<td>Addressing the needs of the population with the evidence-based interventions - N 791P</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chairperson Name:</td>
<td>Dr. Trinette Radasa</td>
<td>Advisor Name:</td>
<td>Dr. Trinette Radasa</td>
</tr>
<tr>
<td>Second Reader Name:</td>
<td>Dr. Jo Loomis</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Project Description

1. **Title of Project:** Community Health Worker Certification Program “Advocacy, Communication, Interpersonal skills Motivational Interview and competencies”.

2. **Brief Description of Project:** *(Clearly state the purpose of the project and the problem statement in 250 words or less):*

   Save the children is a global organization in collaboration with the University of San Francisco, developing a curriculum to educate community health workers in the field. This is a group project covering several topics. My project entails teaching about advocacy, effective communication skills, conflict resolution, motivational interviewing techniques, and parental advocacy skills.

   Community health workers (CHWs) are a crucial part of the community in providing care, educating, and advocating for the residents in their community. They are the connecting entity between the underserved population in the community and health care systems (CDC, 2019). In the last fifteen years, the CHW workforce has expanded drastically in the United States, and they have been recognized as a public health worker (CDC, 2019). However, maintaining the CHWs workforce has several hurdles, such as inadequate training, standardized curriculum, and insufficient funding. Glenton et al. (2013) concluded that appropriate training, guidance, and incentives would improve the care rendered by lay health workers in the local communities. Hence, it is imperative to identify the need to train and educate the CHWs effectively.

   Adequate knowledge about specific healthcare areas is imperative in delivering efficient healthcare services in the community. Effective communication is a vital component in health care, particularly in primary care. Because the provider or patient lacks a clear understanding of the conveyed message, the care delivery is compromised (Ratna, 2019). Advocating for the patient, learning about conflict resolution, and motivational interview techniques are all part of communication skills.
3. AIM Statement: What are you trying to accomplish?

Betterment of rendered health care services in underserved population depends on the public health workers’ competency level. Lack of adequate training has been a huge barrier in improving CHWs level of care. So, the home visitors in Save the children organization will be the suitable candidate for this project. This project’s aim as part of a larger group project is to improve home visitors’ knowledge about health care advocacy, effective communication skills, conflict resolution, use of motivational interviewing skills and parental advocacy guidance for their children.

Complete the AIM statement by answering the following elements:

What: Knowledge about motivational interviewing, advocacy, communication, interpersonal skills and competencies”.

How much improvement: At least 10% from pretest assessment

For whom: Home visitors in Save the children organization

Where: Hybrid, online and in-person session at USF

By when: Summer 2023

4. Brief Description of Intervention (150 words):

The course curriculum will be developed and presented to home visitors via five sessions. Modes of education will include PowerPoint presentation, roleplays, and case study. A pre and post-test questionnaire and qualitative survey will be administered to measure the participants knowledge. The participants will be interviewed periodically to get feedbacks about the content and suggestions regarding the methods of teaching. Additionally, an educational handout will be given and emailed to the participants.

4a. How will this intervention be implemented?

• Where will you implement the project?
  This DNP project will be implemented at University of San Francisco and online via zoom.

• Attach a letter from the agency with approval of your project.

• Who is the focus of the intervention?
  Home visitors in Save the children organization

• How will you inform stakeholders/participants about the project and the intervention?
  The stakeholders will be contacted via zoom meetings, email and in-person meetings.
  The participants will be informed about the training via email and all the training material will be emailed and given to them as well when they attend the training in-person.

5. Outcome measurements: How will you know that a change is an improvement?

• Measurement over time is essential to QI. Measures can be outcome, process, or balancing measures. Baseline or benchmark data are needed to show improvement.

• Align your measure with your problem statement and aim.

• Try to define your measure as a numerator/denominator.

   The outcome measure to evaluate this project will include participants’ knowledge. A Pre-test and post-test will be administered before and after each module. Periodical feedbacks survey also will be given to the participants to improve quality of the presentation and content.
• What is the reliability and validity of the measure? Provide any tools that you will use as appendices.

  The outcome analysis is primarily by comparing the pre-test scores with posttest scores using Likert scale. These data will be collected as both qualitative and quantitative. CI and statistical significance will be measured. All the test, survey results will be attached as appendices.

• Describe how you will protect participant confidentiality.

  All the participants will fill out the informed consent form before the training session. Consent form will include project details such as timeline, venue, method of teaching, advertising, stakeholders, and publications. Participants will be given an opportunity to ask questions about confidentiality.
DNP Statement of Determination

Evidence-Based Change of Practice Project Checklist*

The SOD should be completed in NURS 7005 and NURS 791E/P or NURS 749/A/E

Project Title:
Community Health Worker Certification Program “Advocacy, Communication, and Interpersonal skills and competencies”

<table>
<thead>
<tr>
<th>Mark an “X” under “Yes” or “No” for each of the following statements:</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>The aim of the project is to improve the process or delivery of care with established/accepted standards, or to implement evidence-based change. There is no intention of using the data for research purposes.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>The specific aim is to improve performance on a specific service or program and <strong>is a part of usual care.</strong> All participants will receive standard of care.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>The project is <strong>not</strong> designed to follow a research design, e.g., hypothesis testing or group comparison, randomization, control groups, prospective comparison groups, cross-sectional, case control. The project does <strong>not</strong> follow a protocol that overrides clinical decision-making.</td>
<td></td>
<td>X</td>
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<tr>
<td>The project involves implementation of established and tested quality standards and/or systematic monitoring, assessment or evaluation of the organization to ensure that existing quality standards are being met. The project does <strong>not</strong> develop paradigms or untested methods or new untested standards.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>The project involves implementation of care practices and interventions that are consensus-based or evidence-based. The project does <strong>not</strong> seek to test an intervention that is beyond current science and experience.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>The project is conducted by staff where the project will take place and involves staff who are working at an agency that has an agreement with USF SONHP.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>The project has <strong>no</strong> funding from federal agencies or research-focused organizations and is not receiving funding for implementation research.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>The agency or clinical practice unit agrees that this is a project that will be implemented to improve the process or delivery of care, i.e., <strong>not</strong> a personal research project that is dependent upon the voluntary participation of colleagues, students and/or patients.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>If there is an intent to, or possibility of publishing your work, you and supervising faculty and the agency oversight committee are comfortable with the following statement in your methods section: “<strong>This project was undertaken as an Evidence-based change of practice project at X hospital or agency and as such was not formally supervised by the Institutional Review Board.</strong>”</td>
<td></td>
<td>X</td>
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</tbody>
</table>

Answer Key:

- If the answer to all of these items is “Yes”, the project can be considered an evidence-based activity that does **not** meet the definition of research. IRB review is not required. Keep a copy of this checklist in your files.
- If the answer to any of these questions is “No”, you must submit for IRB approval.
To qualify as an Evidence-based Change in Practice Project, rather than a Research Project, the criteria outlined in federal guidelines will be used: [http://answers.hhs.gov/ohrp/categories/1569](http://answers.hhs.gov/ohrp/categories/1569)

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**DNP Statement of Determination**

**Evidence-Based Change of Practice Project Checklist Outcome**

*The SOD should be completed in NURS 7005 and NURS 791E/P or NURS 749/A/E*

- [ ] This project meets the guidelines for an Evidence-based Change in Practice Project as outlined in the Project Checklist (attached). **Student may proceed with implementation.**

- [ ] This project involves research with human subjects and **must be submitted for IRB approval before project activity can commence.**

**Comments:**

<table>
<thead>
<tr>
<th>Student Last Name:</th>
<th>Antony</th>
<th>Student First Name:</th>
<th>Stella</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Signature:</td>
<td>Stella Antony</td>
<td>Date:</td>
<td>5/17/2022</td>
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</tbody>
</table>

**Chairperson**

Name: Dr. Trinette Radasa

**Chairperson Signature:**

**Date:**

**Second Reader**

Name: Dr. Jo Loomis

**Second Reader Signature:**

**Date:**

**DNP SOD Review Committee Member**

Name: __________________________

**DNP SOD Review Committee Member Signature:**

**Date:** __________________________
Appendix B: Letter of Support from Agency

From: Mitchell, SaRonn smitchell@savechildren.org
Subject: Save the Children and USF Partnership
Date: October 31, 2021 at 5:32 PM
To: Jo Ann Loomis (jaloomis2@usfca.edu) jaloomis2@usfca.edu

To Whom it May Concern:

It gives me great pleasure to be in partnership with USF and its students to bring much needed support and training to Save the Children’s partner staff and the communities we serve. Our new and bold endeavor of building a Community Health Worker program, for example, will not only support families with understanding the importance of identifying a medical home, but will support our Early Childhood Coordinators/home visitors with a variety of interventions that will improve the overall quality of life and productivity for the communities they serve.

Since 2012, Save the Children and University of San Francisco have worked together in partnership to promote positive health outcomes for families and children in California’s Central Valley. The USF students have provided health education and training for Early Childhood Coordinators/home visitors on topics such as breastfeeding education, oral health, child and family nutrition, and the effects of toxic stress and violence on children. The USF students were able to accompany the home visitors to provide nursing support with early childhood developmental screenings. These home visits were highlights of the experiences for USF students with the intention of providing them with deeper insight into some of the health needs of the families we serve, in rural America. This learning experience was vast in its approach as it included meeting program families and working with them on a one-to-one basis helped teach the need and create the ‘heart’ for many of the students to consider living and working in rural California. Working with the early childhood coordinators was an important part of these experiences, as they provided insight into the community needs to the USF students who many live and attend school in urban San Francisco.

Today, as we continue our work together, we will co-design a Community Health Worker training program for our local Early Childhood Coordinators/home visitors. Like our Early Childhood Coordinator, Community Health Workers literally meet families where they live, and see their economic, physical, and related mental health struggles on a daily basis. The Early Childhood Coordinators will be strategically positioned to provide support for the whole person as they assess the wide array of environmental, economic, and social determinants of health for this population. They visit with parents in their homes and see first-hand the effects of poverty, language barriers, and other social disadvantages that affect physical and mental health. This educational program will be designed to equip and enlarge the skills, attitudes, and behaviors of the early childhood coordinators as CHW to assess the whole person, in respect for the individual circumstances and needs of parents and families in the community, especially those families who experience traumatic and adverse determinants of health.

We are committed to creating new approaches to support systemic and collaborative community health-based initiatives that promote among other things, optimal birth outcomes and positive family and child outcomes. Furthermore, our early childhood coordinators will be better equipped during regular home visits to support families. Early Childhood Coordinators will provide families with health-related knowledge and tools to be better advocates for themselves as parents and for their children.
## Appendix C: Evaluation Table

<table>
<thead>
<tr>
<th>Purpose of Article or Review</th>
<th>Design / Method / Conceptual Framework</th>
<th>Sample / Setting</th>
<th>Major Variables Studied (and their Definitions)</th>
<th>Measurement of Major Variables</th>
<th>Data Analysis</th>
<th>Study Findings</th>
<th>Level of Evidence (Critical Appraisal Score) / Worth to Practice / Strengths and Weaknesses / Feasibility / Conclusion(s) / Recommendation(s) / APA Reference:</th>
</tr>
</thead>
<tbody>
<tr>
<td>To determine whether Hispanic residents receiving the Healthy Fit intervention enhanced with MI experienced greater improvement in body composition, relative to participants receiving the initial intervention</td>
<td>Longitudinal quasi experimental evaluation. No conceptual framework identified.</td>
<td>Hispanic residents – 18 years or older, 374 participants, of which 97 received MI and 277 completed the standard intervention. El Paso County, Texas</td>
<td>Demographic data, height and weight body fat percentage, BMIs, Yearly income by z-scores, full body composition scale with bioelectrical impedance analysis to measure height and body fat percentage. Binary wt loss and fat loss by subtracting baseline from 12-month f/u value. Used Phen X toolkit for health measures</td>
<td>SAS version 9.4 to conduct all analyses and multiple imputation to estimate missing data. Logistic and linear regression models were used</td>
<td>Participants receiving MI had 2.13 times higher odds of losing wt and 2.59 times higher odds of reduced BFP relative to initial intervention participants. MI participants lost an average of 1.23 kg and their BFP declined 2% over 12 months</td>
<td>Level II- High quality (A) Guides to use the CHWs and MI in the community level. Strengths: Biometric outcomes of BMI &amp; BFP. Use of control group, including body composition as a variable and the study duration of 12 months. Weakness: Use of quasi method rather than random assignment, not generalizable since 87% of the study participants are females. Conclusion: Findings suggest CHW use of MI is a promising approach for promoting incremental changes in diet and exercise, which Healthy Fit integrates into a low-cost intervention. Recommend to RCT study to establish efficacy of this approach.</td>
<td>Brown, L. D., Vasquez, D., Lopez, D. I., &amp; Portillo, E. M. (2022). Addressing Hispanic obesity disparities using a community health worker model grounded in motivational interviewing. <em>American Journal of Health Promotion</em>, 36(2), 259–268. <a href="https://doi.org/10.1177/08901171211049679">https://doi.org/10.1177/08901171211049679</a></td>
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</table>

**Definition of abbreviations:**
### Purpose of Article or Review

To determine the efficacy of brief motivational interviewing (MI) by lay healthcare workers (LHCWs) in assisting TB patients to quit smoking.

### Design / Method / Conceptual Framework

- Multi-centre two-group parallel individual randomized controlled trial.
- No conceptual framework identified.

### Sample / Setting

- Newly diagnosed patients with TB: (intervention group, n = 205 and the control group, n = 204. Six primary care tuberculosis clinics in a South African township.

### Major Variables Studied (and their Definitions)

- Self-reported smoking abstinence, Sustained abstinence, prevalence abstinence and quit rates

### Measurement of Major Variables

- Exhaled carbon monoxide (CO) testing.

### Data Analysis

- Microsoft Excel and analyzed with Stata, version 12. Primary analysis is Intend to treat (ITT)

### Study Findings

- Self-reported 6 month sustained abstinence is higher in IG (21.5%) than CG (9.3%). RR=2.29, 95%CI=1.34,3.92

### Level of Evidence (Critical Appraisal Score) / Worth to Practice / Strengths and Weaknesses / Feasibility / Conclusion(s) / Recommendation(s)

- Level 1 Good Quality (B). Worth to practice since the study results supports the use of LHCW and MI.
- Strengths: Adequate number of participants. Study design. Randomized study group.
- Limitations: High number of participants were not traced back. ITT analysis. MI intervention was offered in a single session. LHCWs competency is low for delivering MI. Interviewer or respondent bias.
- Conclusion: Brief MI counselling by LHCWs was effective in assisting TB patients to quit tobacco smoking.
- Recommendations: Authors recommend the careful implementation of brief MI by LHCWs at TB clinics.
<table>
<thead>
<tr>
<th>Purpose of Article or Review</th>
<th>Design / Method / Conceptual Framework</th>
<th>Sample / Setting</th>
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<th>Measurement of Major Variables</th>
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<td></td>
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<td>clinics in Tshwane.</td>
</tr>
</tbody>
</table>

Definition of abbreviations: CG- Control Group, RR- Relative Risk, TB - Tuberculosis
### Purpose of Article or Review

To examine three innovative strategies designed to overcome the health disparities Hispanic immigrants face: the use of CHWs, vouchers for preventative health services, and motivational interviewing (MI).

### Design / Method / Conceptual Framework

Non research survey method. No conceptual framework identified.

### Sample / Setting

Hispanic immigrants from a health fair or community fair at El Paso Texas

### Major Variables Studied (and their Definitions)

Participants completed a baseline health screening which includes a demographic survey and health measurements, such as blood pressure, body mass index, and fat percentage

### Measurement of Major Variables

N/A

### Data Analysis

N/A

### Study Findings

N/A

### Level of Evidence (Critical Appraisal Score) / Worth to Practice / Strengths and Weaknesses / Feasibility / Conclusion(s) / Recommendation(s)

- **Level V** Good quality (B).
- Worth to practice since this review concluded that use of CHWs with MI skills lead to low cost well focused intervention in rural community.
- **Strengths:**
  - Large number of participants > 2500
  - CHWs were adequately trained in MI skills
- **Weaknesses:**
  - No analytical data
  - No statistical evaluation of the variables

**Definition of abbreviations:**

CHW: Community health workers.

---

**APA Reference:**

<table>
<thead>
<tr>
<th>Purpose of Article or Review</th>
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<th>Sample / Setting</th>
<th>Major Variables Studied (and their Definitions)</th>
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</tr>
</thead>
<tbody>
<tr>
<td>To explore the role and effectiveness of community health workers (CHWs) in childhood obesity interventions.</td>
<td>Systemic review and meta-analysis. No conceptual framework identified.</td>
<td>Nine studies: Quasi experimental or experimental, sample children (0-18 years), implemented in the United Nations, Intervention f/o childhood obesity, interventionist includes CHWs.</td>
<td>BMI</td>
<td>BMI percentile, BMI z scores</td>
<td>MS Excel</td>
<td>BMIz [7 studies]: 0.08, 95% CI: 0.15, 0.01, p = 0.03, I² = 39.4%; BMI percentile [2 studies]: 0.25, 95% CI: 0.38, 0.11, p &lt; 0.01, I² = 0%.</td>
<td>Level V Good Quality B. Findings from this review demonstrate that partnering with community health workers may be an important strategy for reducing childhood obesity disparities and advancing health equity. Weaknesses: Chosen studies were not published in English. Studies were selected from a developed country. Has only two variables. May not be generalized.</td>
</tr>
</tbody>
</table>

Definition of abbreviations:
F/o – Focused on; BMI – Body mass index; CI- confidence interval.
APA Reference:

To describe the feasibility of training CHWs to deliver a motivational interviewing (MI) intervention to promote cancer screening in underserved populations.

<table>
<thead>
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<th>Data Analysis</th>
<th>Study Findings</th>
<th>Level of Evidence (Critical Appraisal Score) / Worth to Practice / Strengths and Weaknesses / Conclusion(s) / Recommendation(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>To describe the feasibility of training CHWs to deliver a motivational interviewing (MI) intervention to promote cancer screening in underserved populations.</td>
<td>Qualitative Pilot study. No conceptual framework identified</td>
<td>African American women visiting two university affiliated emergency departments in eastern Kentucky</td>
<td>• MI skills fidelity • Cancer screening rates • Feasibility of the MI training</td>
<td>• MI—planning, evoking, focusing, and engaging • Cancer screening rates</td>
<td>MITI 3.1.1 Qualitative survey</td>
<td>24.4% of the participants received the cancer screening. The, debriefing qualitative data showed that CHWs were satisfied with the trainings, pace of training delivery</td>
<td>Level: V High qualityA Weakness: CHWs had various study backgrounds, The MI skills recordings were not submitted on time to evaluate completely. The MITI tool was not used effectively and did not release the results. Conclusion: The training CHWs to use MI is feasible and valuable to the work of promoting cancer screening in underserved populations. The training enhanced the skills of a group that has a pivotal role in community-based prevention research and allows for an expansion of that role to include a powerful and proven tool that had previously been used only by trained professionals.</td>
</tr>
</tbody>
</table>

Definition of abbreviations: CHW: Community health Workers, MI – Motivational Interviewing. MITI – Motivational Interviewing Treatment Integrity coding system.
<table>
<thead>
<tr>
<th>Purpose of Article or Review</th>
<th>Design / Method / Conceptual Framework</th>
<th>Sample / Setting</th>
<th>Major Variables Studied (and their Definitions)</th>
<th>Measurement of Major Variables</th>
<th>Data Analysis</th>
<th>Study Findings</th>
<th>Level of Evidence (Critical Appraisal Score) / Worth to Practice / Strengths and Weaknesses / Feasibility / Conclusion(s) / Recommendation(s) / APA Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>To investigate whether integrated motivational interviewing and cognitive behaviour therapy leads to changes in lifestyle mediators of overweight and obesity in community-dwelling adults.</td>
<td>Systematic review and meta-analyses. Six electronic databases were systematically searched up to 04 October 2017. Analyses were restricted to randomised controlled trials that examined the effect of integrated motivational interviewing and cognitive behaviour therapy on lifestyle mediators of overweight and obesity (physical activity, diet,</td>
<td>Ten randomized controlled trials involving 1949 participants were included</td>
<td>The outcome measures of the studies</td>
<td>Integrated MT-CBT effectiveness</td>
<td>Meta-analyses were conducted using change scores from baseline in outcome measures specific to the lifestyle mediators of overweight and obesity to determine standardized mean differences (SMD) and 95% confidence intervals (95% CI). The Grades of Recommendat</td>
<td>Results revealed moderate quality evidence that integrated motivational interviewing and cognitive behavior therapy had a significant effect in increasing physical activity levels in community-dwelling adults (SMD: 0.18, 95% CI: 0.06 to 0.31, p &lt; 0.05). The combined</td>
<td></td>
</tr>
</tbody>
</table>

**APA Reference:**

Conclusion: this analysis indicates that integrated MI-CBT leads to modest improvements in PA and body composition changes amongst community-dwelling adults.

Weakness: This review and meta-analyses included several small trials, undertaken on restrictive populations, which might have influenced the observed effect sizes.
<table>
<thead>
<tr>
<th>Purpose of Article or Review</th>
<th>Design / Method / Conceptual Framework</th>
<th>Sample / Setting</th>
<th>Major Variables Studied (and their Definitions)</th>
<th>Measurement of Major Variables</th>
<th>Data Analysis</th>
<th>Study Findings</th>
<th>Level of Evidence (Critical Appraisal Score) / Worth to Practice / Strengths and Weaknesses / Feasibility / Conclusion(s) / Recommendation(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>body composition) in Community-dwelling adults.</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Definition of abbreviations: CBT- Cognitive Behavioral Therapy. MI – Motivational Interviewing
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>To determine the impact of refresher training and supervision on counselors’ proficiency in the intervention</td>
<td>Action research method. Nonexperimental. Audio-recordings of counseling sessions were collected for 22 of 39 counselors after 18 hr of refresher training and supervision had been delivered over a 12-month period. Recordings were transcribed, translated, and analyzed for fidelity to the Options protocol and the MI approach. Analysis was conducted using the Motivational Interviewing Treatment Integrity</td>
<td>South Africa, nongovernmental organizations (NGOs). Four of these NGOs employing 39 adherence counselors were randomly chosen to take part in the 5-day training program. N=22</td>
<td>Counselors’ ability to deliver the intervention protocol after 5 days of Training.</td>
<td>MITI coding scale. MI proficiency</td>
<td>MITI score, Z scores (Paired-sample Wilcoxon signed-rank test)</td>
<td>Participants global scores (Z=2.729, p = .006). Specifically, these tests showed a significant improvement between Time 1 and Time 2 on the following global characteristics: evocation (Z =3.099, p=.002), collaboration (Z =2.312, p=.021), and empathy (Z =2.385, p=.017).</td>
<td>Level: II Good quality B Conclusion: This study contributes evidence for the positive impact of ongoing training and supervision on lay health worker practice. Refresher training and supervision improved counselors’ basic counseling communication skills and therapeutic approach, enabling them to deliver better quality counseling for behavior change. Weakness: Lack of follow up with some of the participants in phase 2 of the study. Language issues between the educator and participants. Recommendations: Large-scale LHW interventions involve considerable financial investment</td>
</tr>
</tbody>
</table>
Tool and an instrument developed by the researchers. Results were compared to findings from an evaluation of counselors’ performance immediately following the initial 35-hr training. Conceptual framework: Model of behavior change.

Definition of abbreviations: LHW- Lay Health Workers, MI – Motivational Interviewing. MITI – Motivational Interviewing Treatment Integrity coding system.
To promote evidence-based practices (TMI) are particularly needed for paraprofessional staff working with minority youth with HIV who have higher rates of HIV infection.

Experimental study. No conceptual framework found.

Longitudinal data were collected from 19 CHWs at 16 youth HIV agencies.

MI competence, Impact of the intervention. Qualitative surveys.

MI competence

Random coefficient models were utilized to examine time trajectories of competence scores and the impact of the intervention on competence trajectories. Semi-structured interviews were conducted to determine barriers and facilitators of TMI.

Competence scores in the TMI group significantly increased while the scores of the control group significantly decreased.

Level I Good quality B

Conclusion: Use of TMI is effective in improving the CHWs competence and improving patient outcomes in adolescent HIV settings.

Recommendation: Fully randomized pilot study of TMI relative to a control condition in preparation for a stepped-wedge cluster randomized full scale trial.

Definition of abbreviations: CHW: Community health Workers, HIV – Human Immunodeficiency Virus, TMI – Tailored Motivational Interviewing,
<table>
<thead>
<tr>
<th>Purpose of Article or Review</th>
<th>Design / Method / Conceptual Framework</th>
<th>Sample / Setting</th>
<th>Major Variables Studied (and their Definitions)</th>
<th>Measurement of Major Variables</th>
<th>Data Analysis</th>
<th>Study Findings</th>
<th>Level of Evidence (Critical Appraisal Score) / Worth to Practice / Strengths and Weaknesses / Feasibility / Conclusion(s) / Recommendation(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>To identify barriers and facilitators to efforts by lay health workers (LHWs) to support antituberculosis treatment adherence in Malawi to inform the design of a knowledge translation intervention for improving adherence.</td>
<td>Qualitative study utilizing focus groups and interviews conducted with LHWs providing tuberculosis (TB) care in Zomba District, Malawi. No conceptual framework identified</td>
<td>The study was conducted with 30 LHWs providing TB care in Zomba District in southern Malawi. Participants were selected using an intensity approach to purposeful sampling.</td>
<td>The LHWs’ experience in working with TB patients to identify the barriers and facilitators to their work as adherence supporters. Disease-specific knowledge, patient-provider interactions and substance abuse</td>
<td>N/A</td>
<td>Manual Content analysis</td>
<td>Participants identified lack of knowledge, both general (understanding of TB and its treatment) and job specific (understanding of tasks such as completion of treatment forms) as the key barrier to LHWs in their role as adherence supporters</td>
<td>Level: III-High qualityA Conclusion: Findings suggest a gap between LHW knowledge and their responsibilities as adherence supporters. The results have informed the development of an educational outreach intervention and point-of-care tool, to be evaluated in a randomized trial in Zomba District Weakness: Not generalizable since the study took place in Zomba. Possible mistranslation of words or concepts which could limit the understanding of the cultural context.</td>
</tr>
</tbody>
</table>

APA Reference:

Definition of abbreviations:
### Purpose of Article or Review
- This paper reflects on how MI can be incorporated successfully into PMTCT counselling and what lessons can be learnt regarding how to conduct training with counsellors.

### Design / Method / Conceptual Framework
- Action research method.

### Sample / Setting
- Nurse and lay PMTCT counsellors from four sites in Southern Africa. An action researcher was appointed at each site to train the counsellors, as well as to facilitate and document the action-reflection process. None of the counsellors had previously been exposed to motivational interviewing. Ethical approval for the study was obtained from the University of Cape Town in South Africa.

### Major Variables Studied (and their Definitions)
- MI skills

### Measurement of Major Variables
- MITI code tool. Global ratings of empathy and the spirit of MI are also made using a seven-point Likert scale.

### Data Analysis
- Qualitative survey, MITI coding system

### Study Findings
- None of the groups achieved proficiency in the use of complex reflections. The counsellors in Namibia achieved beginning proficiency in all the other MITI criteria, and the counsellors in Swaziland followed a similar pattern, although they were just below the thresholds required for the use of open questions and

### Level of Evidence (Critical Appraisal Score) / Worth to Practice / Strengths and Weaknesses / Feasibility / Conclusion(s) / Recommendation(s) /
- Level: III- Good quality B
  
  **Conclusion:** The nurse counsellors in Namibia and Swaziland demonstrated beginning proficiency in MI, while the lay counsellors in South Africa did not.

  **Weakness:** MITI evaluation is done by one person. The counselling sessions were translated, and it is possible that the original meaning and grammatical formulation were distorted. Some participants did not submit the video tapes for MITI evaluation.

### APA Reference:
<table>
<thead>
<tr>
<th>Purpose of Article or Review</th>
<th>Design / Method / Conceptual Framework</th>
<th>Sample / Setting</th>
<th>Major Variables Studied (and their Definitions)</th>
<th>Measurement of Major Variables</th>
<th>Data Analysis</th>
<th>Study Findings</th>
<th>Level of Evidence (Critical Appraisal Score) / Worth to Practice / Strengths and Weaknesses / Feasibility / Conclusion(s) / Recommendation(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MI-adherent behavior counts. The nurse counsellors as a group also achieved borderline proficiency, with sub-threshold scores for the reflection-to-question ratio and MI-adherent behavior counts.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Definition of abbreviations: MI – Motivational Interviewing. MITI – Motivational Interviewing Treatment Integrity coding system, PMTCT- Prevention of Mother to Child Transmission.
Appendix D: The Social Cognitive Theory (Esourceresearch, 2021)

The Transtheoretical Model (The relationship blog, 2016)
## Appendix E: Stakeholders

<table>
<thead>
<tr>
<th>Level of Power</th>
<th>Keep Satisfied</th>
<th>Manage Closely</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High Power, Low Interest</td>
<td>High Power, High Interest</td>
</tr>
<tr>
<td></td>
<td>Local Public Health department, University of San Francisco, Local health care providers</td>
<td>Save the children organization, University of San Francisco faculty and DNP students</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level of Interest</th>
<th>Monitor</th>
<th>Keep Informed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Power, Low Interest</td>
<td>Community residents, Local schools</td>
<td>CHWs in Save the children organization</td>
</tr>
</tbody>
</table>
Appendix F: Gap Analysis

<table>
<thead>
<tr>
<th>Desired State</th>
<th>Current State</th>
<th>Action Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilizing community health workers trained and competent in MI to improve health behaviors in the community</td>
<td>Lack of adequate training and competency for community health workers</td>
<td>Develop a curriculum and take classes for the community health workers</td>
</tr>
</tbody>
</table>
## Appendix G: Gantt Chart

<table>
<thead>
<tr>
<th>Course/Life Event</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>May</td>
<td>Jun</td>
</tr>
<tr>
<td>Stakeholder meeting &amp; project planning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Literature Review 705B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DNP project prospectus development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prospectus development, and prepare educational content in canvas platform</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DNP project implementation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data collection and evaluation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manuscript submission</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DNP project presentation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix H: Work Breakdown Structure

Educating the Community Health workers (CHWs) on Motivational interview (MI)

1. Development of curriculum
   - 1.1. Literature Review and gather evidence
   - 1.2. Meet with the stakeholders and gain insight about the projects
   - 1.2. Interview the CHWs to assess their baseline knowledge about this topic
   - 1.3 Develop the teaching modules
     - 1.3.1. Develop module objectives.
     - 1.3.2. Develop role play script and case studies
     - 1.3.2. Develop Pre and post assessment for each module

2. Implementation of the Curriculum
   - 2.1. Organize the Five teaching sessions with the participants. And the faculty
   - 2.2. Take the five class session as a hybrid model via Zoom and in-person at USF
   - 2.3. Use case studies and role-plays
   - 2.4. Administer pre and post assessment in each module

3. Evaluation of the educational session
   - 3.1. Data collection
     - 3.1.1. Pre and post assessment scores
     - 3.1.2. Participants fill a survey
     - 3.1.3. Assess the return demonstration and role-play skills.
   - 3.2. Data evaluation
     - 3.2.1. Use of Qualtrics
     - 3.2.2. Use of Microsoft Excel sheet
     - 3.2.3. Use of SPSS statistical software
## Appendix I: Communication Plan/ Matrix

<table>
<thead>
<tr>
<th>Communication Vehicle</th>
<th>Description</th>
<th>Delivery Method</th>
<th>Frequency</th>
<th>Target Audience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monthly report to the chairperson</td>
<td>Update about project development process</td>
<td>Email or zoom</td>
<td>Monthly</td>
<td>USF faculty and chairperson</td>
</tr>
<tr>
<td>Meeting with the other DNP student who shared the similar project</td>
<td>Discuss about the canvas educational module development</td>
<td>Zoom</td>
<td>Once</td>
<td>Stakeholders</td>
</tr>
<tr>
<td>Curriculum training</td>
<td>Teach the participants the required modules</td>
<td>In person/Face to face or online via Zoom</td>
<td>Twice every month for 3 months</td>
<td>Community health workers from Save the children organization</td>
</tr>
<tr>
<td>Educational intervention assessment</td>
<td>Gather feedback from the participants and stakeholders regarding the training and identify ways to improve</td>
<td>Pre and Post assessment after each module</td>
<td>Twice a month for 3 months</td>
<td>Community health workers</td>
</tr>
</tbody>
</table>
Appendix J: SWOT Analysis

<table>
<thead>
<tr>
<th>Favorable/Helpful</th>
<th>Unfavorable/Harmful</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strengths</strong></td>
<td><strong>Weaknesses</strong></td>
</tr>
<tr>
<td>CHWs are the focus group.</td>
<td>Lack of in-person face to face communication</td>
</tr>
<tr>
<td>Supportive STC manager</td>
<td>CHWs with various educational backgrounds</td>
</tr>
<tr>
<td>CHWs have a good rapport with the community.</td>
<td>Electrical/technical difficulties during the hybrid education</td>
</tr>
<tr>
<td>Using evidence-based patient-centred communication/counselling (MI skills)</td>
<td>The language barrier between the educator and participants</td>
</tr>
<tr>
<td>Interactive teaching sessions</td>
<td></td>
</tr>
<tr>
<td>Participants are well motivated</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Opportunities</strong></th>
<th><strong>Threats</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivers well-planned educational support and guidance for getting the CHW certificates.</td>
<td>Other websites have an online educational module.</td>
</tr>
<tr>
<td>Establish Canvas /Zoom platform for the participants to access anytime at their convenience.</td>
<td>Lack of adequate government funding</td>
</tr>
<tr>
<td>Improves CHW's confidence, role, and competency.</td>
<td>Lack of follow-up/ refresher classes.</td>
</tr>
<tr>
<td>Improves community health outcomes.</td>
<td>CHWs in California do not need to be certified.</td>
</tr>
<tr>
<td></td>
<td>Lack of government policy to train the CHWs</td>
</tr>
</tbody>
</table>
## Appendix K: Financial Analysis

### Budget

<table>
<thead>
<tr>
<th>Type of expenses</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 CHW {16 x (15x3)}</td>
<td>$720</td>
</tr>
<tr>
<td>DNP student (65 \times 3)</td>
<td>$195</td>
</tr>
<tr>
<td>STC manager (45\times3)</td>
<td>$135</td>
</tr>
<tr>
<td>Chrome books (16 \times $199)</td>
<td>$3184</td>
</tr>
<tr>
<td>Travel (Cumulative)</td>
<td></td>
</tr>
<tr>
<td>- CHWs (Fresno to SFO)</td>
<td>$320</td>
</tr>
<tr>
<td>- DNP Student (Bart)</td>
<td>$21</td>
</tr>
<tr>
<td>Teaching Materials/Printouts</td>
<td>$300</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$4875</strong></td>
</tr>
</tbody>
</table>

### Cost-Benefit Analysis

<table>
<thead>
<tr>
<th>Items</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>The annual cost of managing chronic conditions*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Direct cost ($6032/\text{person} \times 16)</td>
<td>$96,512</td>
<td>$101,337</td>
<td>$106,403</td>
</tr>
<tr>
<td>- Indirect cost (6 \times \text{direct cost})</td>
<td>$579,072</td>
<td>$608,025</td>
<td>$638,426</td>
</tr>
<tr>
<td>Project expenses</td>
<td>$4875</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

| Net Cost benefit **                                                 | $670,709 | $709,362 | $744,829 |

| Cost-benefit Ratio**                                                | 137.58% |

*Cost per person x16- assuming each trained CHW will see one patient per day; following years are 5% higher than the initial year

**Assuming CHWs acquainted with MI use the silks skills to prevent a chronic health problem in 3 years

### Net Cost Benefit

- Total Benefits – Total Costs = Net Benefit
- Cost of managing chronic diseases – Total Training Cost = Net Benefits
- $675,584 - $4,875 = $670,709

### Cost Benefit Ratio:

- Total Benefits /Total Costs = Cost-Benefit Ratio
- 670,584/4875 = 137.58%
Appendix L. PDSA Cycle

**PLAN**
- Develop curriculum and the teaching module
- Design the data collection survey and tools
- Design the qualitative and quantitative data collection survey

**DO**
- Implement the teaching curriculum
- Teach the modules to CHWs
- Administer survey to assess CHWs knowledge, confidence and competency
- Conduct feedback survey for the program effectiveness

**ACT**
- Assess the current program teaching method and delivery.
- Incorporate the addressed changes from the feedbacks and study results
- Modify and adjust the current teaching methods and content
- Update the current survey and assessment tools to improve feedbacks

**STUDY**
- Collect and analyse the data.
- Collect the qualitative survey
- Evaluate and analyse the data results
- Study the results and find the deficiencies and suggestions to improve the program
Appendix M: Data analysis

Figure M 1: Pre and post Survey

How old are you?
- Under 18
- 18-24 years old
- 25-34 years old
- 35-44 years old
- 45-54 years old
- 55-64 years old
- 65+ years old

What is the highest level of education you have completed?
- Some high school or less
- High school diploma or GED
- Some college but no degree
- Associates or Technical degree
- Bachelor's Degree
- Graduate or professional degree (MA, MS, MBA, PhD, etc.)
- Prefer not to answer

Have you heard of or used Motivational interviewing techniques before?
- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Are you confident in your overall knowledge of using Motivational interviewing skills?
- Definitely not
- Probably not
- Might or might not
- Probably yes
- Definitely yes

What are your expectations in learning about Motivational interviewing?
Figure M2: Pre and post survey - Confidence level & a Qualitative question

How confident are you in using MI skills learnt in this course

How confident are you in using advocacy & community organizing skills?

How confident are you in using effective communication and conflict resolution skills?

How could you describe the efficiency of this course in your own words?
Table M1. Module pre & post quiz percentage change

<table>
<thead>
<tr>
<th></th>
<th>Pre module quiz %</th>
<th>Post Module quiz %</th>
<th>% Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module 1</td>
<td>51%</td>
<td>69%</td>
<td>18%</td>
</tr>
<tr>
<td>Module 2</td>
<td>43%</td>
<td>93%</td>
<td>50%</td>
</tr>
<tr>
<td>Module 3</td>
<td>57%</td>
<td>50%</td>
<td>41%</td>
</tr>
</tbody>
</table>

Figure M3: Graphical representation of % improvement of post quiz from pre quiz results
Figure M4: Word cloud