Community Health Worker Program - Substance Use Disorder in Pregnancy

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Community Health Worker Program -
Substance Use Disorder in Pregnancy

Alicia C. Kletter
University of San Francisco

Dr. Trinette Radasa

Dr. Jo Loomis

May 5, 2022
Abstract

**Background** Substance use disorder (SUD) in pregnancy is a concern for mother, baby and community. Healthcare policies are increasingly calling for diversification of the workforce to meet healthcare needs. Community health workers (CHWs) are understood from the literature to be effective at bridging the gap between patient and healthcare provider, especially for vulnerable populations. **Local Problem** California’s Central Valley is majority Latinx and faces challenges from poverty, lack of medical resources, unemployment and SUD at rates which are higher than other communities. Combine SUD with pregnancy and the need for robust social connections, psychological support, and physical healthcare become even more urgent. **Methods** A CHW course about SUD in pregnancy was developed as part of a Doctor of Nursing Practice evidence-based change of practice project. It consisted of hybrid content delivered in person and over Zoom by three doctoral students and faculty project advisor in collaboration with a non-profit in Fresno, California. The target population for the project is 8 CHW students who are currently employed as “home visitors” for this non-profit. **Interventions** Pre and post knowledge acquisition quizzes were given before each of the 5 modules included in the course. A pre and post self-efficacy survey was given before the course and at the end. **Results** Pre and post knowledge acquisition quizzes showed a range of increases from 2.5% to 36.2% with an average increase of 21.36% indicating that the CHW students learned from the teaching methods and content delivered. The self-efficacy survey showed an increase in confidence level among CHW students in assessment of SUD in pregnancy, counseling of risks and referral to treatment.
Problem

There is ample evidence that substance use disorder (SUD) is a significant issue for rural Latinx communities with the use of illicit drugs, alcohol and tobacco during pregnancy associated with a variety of social, physical, and mental health issues for the Latinx woman and her child (Le & Coombs, 2021). Le & Coombs (2021) describe that pregnant Latinx women with SUD are specifically burdened and reluctant to receive adequate prenatal care due to feelings of guilt or fear of losing custody of their children. In vulnerable populations, such as rural Latinx pregnant women with SUD, babies who do not receive proper prenatal care are more likely to suffer from preventable diseases, prematurity, congenital anomalies, and even infant mortality (Le & Coombs, 2021). Healthcare leaders are calling for growth and diversification of the perinatal workforce to ensure culturally sensitive maternity care and support for rural Latinx women with SUD (Le & Coombs, 2021). This growth and diversification can be manifested with inclusion of community health workers (CHWs) who share similar values and experiences to the Latinx communities in which they live and work and therefore can deliver health information and education in a culturally sensitive manner (Goebel et al., 2020). Community health workers are lay members of the community that act as a liaison between healthcare providers and patients by serving as advocates, promoting adoption of healthy behaviors, linkage of patients to resources and improving health literacy (Rural Health Information Hub, 2022).

Setting and Context

A CHW training course was developed as part of a University of San Francisco (USF) Doctor of Nursing Practice (DNP) approved pilot project coordinated in collaboration with doctoral students at USF, Save the Children (a non-profit organization already established in the communities of California’s Central Valley), and USF nursing faculty. The course consisted of
hybrid content delivered in person and over Zoom by three doctoral students, the USF Faculty
Project advisor and a Save the Children senior advisor. The target population is the 8 CHW
students who are currently employed as “home visitors” for Save the Children. This pilot is part
of an overall group project spanning three semesters and including over 63 hours of teaching by
14 DNP students.

**Project Aim**

Given the need for robust, relevant education of the CHW students, by May of 2022, 100% of the 8 CHW students will have been trained using in-person and online education modules related to pregnancy, substance use disorder and the rural Latinx experience. The CHW students demonstrated knowledge improvement of SUD and pregnancy with at least a 10% increase using pre and post-test knowledge surveys as well as increased self-efficacy related to SUD in pregnancy using pre and post-test tools for measuring comfort with assessing, counseling, and referring.

**Available Knowledge**

**PICOT Question**

The goal for the review of the literature was to look for evidence that CHWs, knowledgeable about SUD in pregnancy, have an impact in the community and therefore, educating the “home visitors” to the level of CHW to provide these needed services to the Latinx community. Therefore, the question review of the literature sought to answer whether education of CHW students about SUD in pregnancy through a lens of stigma, compared with no further education, over the course of one semester, increases knowledge and ultimately improves outcomes for pregnant women with SUD in the rural Latinx community.

**Search Methodology**
A literature search of two major databases was conducted: PubMed and CINAHL. Search terms included community health workers OR promotores de salud, substance abuse AND / OR pregnancy with MeSH terms synonymous for CHWs which included barefoot doctor, community health aide, village health worker, and lay health worker. An initial search term of only community health workers over two databases produced 27,001 articles. Narrowing with pregnancy OR substance abuse reduced this number to 56. Inclusion criteria included: English-language, published between 2005-2021, full-text articles available through library or online, and studies focused on effectiveness of the CHW in a variety of settings and with multiple outcome measures. Inclusion criteria was expanded to allow articles utilizing MeSh terms. Excluded were abstracts not relevant to the identified topic as well as any duplicate studies. After review of the 56 articles, 22 were included for evidence appraisal (See Evaluation Table, Appendix A).

Review of the Literature

Given the theme in the literature which shows that CHWs can assist licensed providers with education and testing for other stigmatized illnesses, it seems likely that with proper education and resources CHWs can screen for SUD during pregnancy, educate patients about treatment options, assist patients with appointments, and help patients generally advocate for effective care (Goebel et al., 2021; Carvajal et al., 2018; Cheun & Loomis, 2018; Fleming et al., 2018; Moore et al., 2016; Capitman, 2009). Community health workers can also be trained to educate their communities about mental health, addiction, and treatment (Mehra et al., 2020). Despite the stigmatizing language endemic to populations when addressing SUD, Zapata et al. (2021) showed that training CHWs in a similarly non-judgmental way about language and word choice when talking to patients with SUD can be effective at reducing this barrier to care. The
importance of integrating culturally aware caregivers and trusted peers into underserved and hard
to reach communities has been documented in the literature (Melendez Guevara et al., 2020).
Melendez Guevara et al. (2021) poignantly states that cultural humility is fundamental for
working effectively with Latinx families, specifically regarding maternal mental health, and that
using the CHW model is one way to address this. It is apparent from the literature that even with
culturally aware and integrated CHWs as an ally, trust of the standard Western medical system
takes time and that medical providers partnering with the CHWs need to be appropriately
educated in the cultural factors affecting this community (Opinas et al., 2021; Young et al.,
2019). Covert et al. (2019) discussed the importance of CHW educational competencies that
address bias and judgment among CHW trainees as an essential way to mitigate these common
barriers while stressing the important role and influence that CHW can have on the community.
Educating CHWs with a robust curriculum that is community driven and allows for culturally
sensitive partnerships between the Latinx community and the local healthcare team has been
shown in the literature to be the most effective way to utilize the powerful connection that CHWs
have with their community (Covert at al., 2019; Young et al., 2019; Fleming et al., 2018;
Hartzler et al., 2018).

Caravajal et al. (2018) noted that a Latinx community based CHW curriculum was an
important part of culturally sensitive programming and that reaching more women in the
community will have the broadest impact on families specifically and the Latinx community in
general. Given the desired goal of improving outcomes for pregnant SUD women from rural
Latinx communities it seems that identifying community concerns about SUD and pregnancy,
educating CHWs to recognize and educate about these concerns, and providing robust clinical
support for the CHWs are all necessary for effective clinical care of this community.
Rationale

In consideration of a theoretical framework we searched as a team for a conceptual framework that would provide a cohesive base for our shared and individual content development. Katigbak et al. (2015) developed the Partners in Health framework specifically to address the role of CHWs in patient adoption of healthy behaviors. This framework emphasizes that CHWs and the community are partners in health and that in developing the course content for the CHW students, we must consider this partnership. Katigbak et al. (2015) state that CHWs are seen as “guides, teachers, friends and confidants” (p. 875) and considering the community characteristics, culture, language, acculturation status as well as the community capacity for intent to change, adoption of healthy behaviors and ability to reduce health disparities are all important to keep in mind when planning the course content for the CHW students.

To further enhance the lens through which SUD in pregnancy is taught, the literature was searched for a framework to assist with teaching about stigma. In 2005, Major and O’Brien published their Model of Stigma-Induced Identity Threat after extensive research on the link between “perceived discrimination and self-esteem with research on stereotype threat” (p. 412). A conceptual model was developed which integrates threat models of stigma with transactional models of stress and coping. The model incorporates patient specific abstract constructs of stigma, personal characteristics, and identity-threat with concrete concepts such as anxiety, increased vigilance, and emotional/physiologic responses to such threats (Major & O’Brien, 2005). Utilizing this knowledge about how stigma affects the reactions of pregnant patients with SUD, course content will be developed to enhance CHW student awareness of the harm that stigma causes for our patients.

Ethical and Policy Implications
The USF DNP faculty determined that this project meets guidelines for an evidence-based change in practice project as outlined with the DNP Statement of Non-Research Determination (Appendix B). The project was also approved by the partnering organization, Save the Children, and a letter of support is provided in Appendix C. No identifiable ethical issues or conflicts of interest have been identified.

While the American Nurses’ Association Code of Ethics governs the specific conduct of registered nurses only, and not community health worker students, it does call on us to participate in the advancement of scholarly knowledge and contribute to the field through research (American Nurses’ Association, 2015). The provision further states that education and practice must promote the ethical and moral values of the nursing profession and that robust knowledge development occurs through interdisciplinary collaboration and sharing of knowledge, which is one foundation for this DNP project. Our Code of Ethics also calls on registered nurses to protect the right for health care to all individuals, consider the health disparities that exist and work collaboratively to diminish them (American Nurses’ Association, 2015).

The University of San Francisco’s Jesuit values include care of the whole person (cura personalis), commitment to diversity, and being a person for others. These values align with this DNP project. Teaching CHW students the knowledge that SUD in pregnancy is not a moral failing but rather a chronic illness that requires medical, psychological, and socioeconomic care, as well as compassion and empathy, shows that the social justice and diversity values of USF have been delivered (University of San Francisco, 2022).

**Implementation**
The curriculum was developed in collaboration with Save the Children senior advisor and USF nursing faculty. An extensive literature review of current CHW programs in the United States was studied. Topics were chosen based on not only current CHW programs but also to meet the specific needs and requests of the current home visitors at Save the Children. While much collaboration was required as part of this larger project, this executive summary is focused solely on the development of the course for CHW students about substance use disorder and pregnancy.

Interventions

Interventions included a gap analysis (Appendix D) to help determine the beginning level of knowledge compared with the desired level of knowledge for the CHW students, a GANTT chart (Appendix E) to determine timeline and project flow, a work breakdown structure (Appendix F) to show the main areas of work to meet outcome measures, a communication matrix (Appendix G) which details the roles and responsibilities for each member of the interdisciplinary team, a SWOT analysis (Appendix H) which helped us conceptualize the internal and external strengths and weaknesses, and finally a proposed budget (Appendix I) which showed proposed costs of $17,230.60. A brief course outline is provided in Appendix J.

Outcome Measures

All outcome measures below were tested with pre and post assessments developed by the DNP scholar. A pre and post knowledge acquisition quiz was given before and after each module for outcomes 1-5. For outcome 6 the pre and post survey tool was given at the beginning of the semester and at the end.

- Outcome 1: Introduction to SUD in Pregnancy
Sample learning objectives include considering how bias and stigma affect SUD treatment and outcomes.

- **Outcome 2: Screening, Brief Intervention, Referral to Treatment and Marijuana Use Disorder in Pregnancy**
  - Sample learning objectives include gaining knowledge about brief intervention skills and how to apply them.

- **Outcome 3: Methamphetamine Use Disorder in Pregnancy**
  - Sample learning objective includes practice applying a brief intervention related to methamphetamine use disorder in pregnancy.

- **Outcome 4: Opioid Use Disorder in Pregnancy**
  - Sample learning objective includes learning about the advocacy and importance of naloxone availability in communities affected by opioid use disorder.

- **Outcome 5: Tobacco and Alcohol Use Disorder in Pregnancy**
  - Sample learning objective includes practice role playing for a screening and brief intervention case related to alcohol or tobacco use during pregnancy.

- **Outcome 6: Self-Efficacy Improvement in assessing SUD, counseling for SUD and referring for treatment.**

**Results**

Results of quantitative data (outcomes 1-5) show improvement in all outcome measures, although targets of 10% improvement were missed for the first outcome. Results for qualitative data (outcome 6) show increase in self-efficacy. See Appendix K for table and corresponding graph of outcome percentages over outcomes 1-5. Outcome 1 showed a 2.5% increase in knowledge between pre and post quiz. Outcome 2 showed a 36.2% increase in knowledge.
between pre and post quiz. Outcome 3 showed a 22% increase in knowledge between pre and post quiz. Outcome 4 showed a 23.2% increase in knowledge between pre and post quiz. Outcome 5 showed a 22.9% increase in knowledge between pre and post quiz. Qualitative data from outcome 6 showed an increase in self-efficacy between pre and post survey in areas of comfort with assessment, counseling and referring to treatment from “not confident” and “somewhat confident” to “mostly confident” and “definitely confident”. This did not vary depending on the number of years employed in the community.

**Conclusions**

**Benefits of project**

Teaching SUD in pregnancy through the lens of exploring bias is of benefit to the CHW as evidenced by their qualitative feedback. A statement from a student in the course underscores the benefits of this knowledge continuing beyond the classroom. The student wrote “I now know about, and have access to, tools to help me better understand the patient’s use with substance use, and how to help guide them to resources and treatment. I understand how judgements and biases are detrimental to a patient who is dependent on a substance and how I can be more patient, kind, empathetic towards them”.

**Limitations**

The limitations identified include the biased sample of students who were eager to learn and requested the educational topics that were delivered. A sample of students without such motivation to learn might have shown smaller gains in knowledge acquisition. Another limitation was the lack of standardized tools to assess pre and post knowledge for each course module. Learning how to develop an effective tool to show knowledge acquisition was a skill that the doctoral student developed over the course of the semester. A final limitation was the lack of
in-person instruction time due to Covid-19 and the need for 4 out of 5 classes to be held over zoom. Community health worker curriculum framework calls for role playing and interactive learning, and this was difficult over zoom.

**Implications for Practice**

Education of a multidisciplinary team is an important consideration for this vulnerable patient population since improving outcomes for the mother and the baby will affect positive change for the individual patient, the family and the community. Asking USF nursing students, CHW students, and administrators to view the need for a scientific approach to SUD treatment, and not a punitive or judgmental approach, can help to drive not only compassion for this population, but also knowledge of treatment options and policy changes that can affect greater change.

**Sustainability**

This project will continue with 2 more semesters of CHW education in Fall 2022 and Spring 2023. Doctor of Nursing Practice students will develop and teach the CHW students continued content, including adverse childhood event recognition and treatment, mental health concerns and health disparities and diversity, equity and inclusion. The USF faculty also realizes the potential need for delivery of this course content again, to new CHW students or other programs requesting the content. It is being considered whether future DNP students can use clinical hours to re-teach the content. The course also is maintained on the Canvas website and CHW students still have access to the lectures, videos, and discussions for revisiting content when they need a refresher. Furthermore, the CHW curriculum requires competency achievement, and this is monitored by program administrators.
References


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https://www.co.fresno.ca.us/home/showdocument?id=17228

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10.2105/AJPH.2018.304737

10.2105/AJPH.2020.305630


https://www.doctorofnursingpracticednp.org/california/california-salary/


10.1353/hpu.2013.0164

to palliative care and chronic disease management through promotores de salud (community health workers). *Journal of Palliative Medicine, 24*(3), 423-427. 10.1089/jpm.2020.0332


https://10.2105/AJPH.2014.302411


Mitchell, S. (2021 July 1). Personal online discussion about goals for Save the Children and current status of “home visitors”. [Personal interview].

preliminary testing of a promotora-delivered, Spanish language, counseling intervention for heavy drinking among male, Latino day laborers. *Journal of Substance Abuse Treatment, 62*, 96-101. 10.1016/j.jsat.2015.11.003


Opioid use disorder ECHO: A program evaluation of a project that provides knowledge
and builds capacity for community health workers in medically underserved areas of

10.1080/01612840.2020.1814911
## Appendix A

### Appraisal of Evidence Table

<table>
<thead>
<tr>
<th>Article Number</th>
<th>Author and Date</th>
<th>Evidence Type</th>
<th>Sample, Sample size, Setting</th>
<th>Findings that Help Answer the EBP Question</th>
<th>Observable Measures</th>
<th>Limitations &amp; Implications for Further Research</th>
<th>Evidence Level and Quality</th>
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<tr>
<td>1</td>
<td>Cunningham, S. D., Riis, V., Line, L., Patti, M., Bucher, M., Durwald, C., &amp; Srinivas, S. K. (2020). Safe Start community health worker program: A multisector partnership to improve perinatal outcomes among low-income pregnant women with chronic health conditions. <em>American Journal of Public Health, 110</em>(6), 836-839</td>
<td>Quasi-experimental qualitative study</td>
<td>Study group N=291 patients (pregnant with preexisting conditions such as obesity, HTN, diabetes and SUD) with evidence of one or more missed medical appointments. Care provided for 3 months post partum. Control group N=300 patients who were eligible but declined to participate.</td>
<td>The use of CHW is a promising strategy to reduce the incidence and impact of chronic disease during pregnancy. Implementati on of a CHW program to improve outcomes in pregnant women in inner city with health disparities. Shows collaboration between medical center and community organizations to plan, implement, evaluate and sustain CHW program. CHWs provide patient navigation and case management to patients. CHWs assess patients in the home for depression, trauma, and IPV. Lower rates of SUD equate to lower rates of NAS (control n=11, study n=1).</td>
<td>Multivariable logistic and Poisson regression to compare adequacy of prenatal care, inpatient admissions and emergency visits, delivery mode, preterm birth, neonatal ICU, length of stay, NAS, and postpartum contraception use. Participants had higher HTN rates but lower SUD rates compared with control group. Study participants had lower odds of adequate prenatal care and higher odds of postpartum visit attendance. No difference in neonatal ICU admission but shorter lengths of stay for study participants.</td>
<td>See Appendix online for examples of CHW trainings (<a href="http://www.ajph.org">www.ajph.org</a>). Issues with sustainability – mostly funding related and establishing contracts to gather patient referrals.</td>
<td>Level II B Good quality with sufficient sample size and control group.</td>
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<td></td>
<td>Covert, H., Sherman, M., Miner, K., &amp; Lichtveld, M. (2019). Core competencies and a workforce framework for community health workers: A model for advancing the profession. <em>American Journal of Public Health, 109</em>(2), 320-327.</td>
<td>Integrative review of the literature  Expert panel recommendations  Workforce framework development with linked validated competencies.</td>
<td>N=15 experts (6 CHW/CHW supervisors, 4 academic researchers, 2 physicians, 3 public health practitioners). N=58 competency validators.</td>
<td>Validated standardized set of core competencies for CHWs. Standardized core competencies and workforce framework are important for addressing health disparities and maximizing CHW effectiveness. CHW workforce expected to expand by 18% by 2026.</td>
<td>Sample is specific to Southern USA and workers at non-profit organizations may not be generalizable. Competencies alone do not guarantee job effectiveness and more research is needed to see if frameworks and training with competencies lead to improved outcomes with patients.</td>
<td>Level V High Quality</td>
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<td>3</td>
<td>Mehra, R., Boyd, L. M., Lewis, J. B., &amp; Cunningham, S. D. (2020). Considerations for building sustainable community health worker programs to improve maternal health. <em>Journal of Primary Care &amp; Community Health, 11</em>, 1-8</td>
<td>Qualitative study  Evaluation of Merck for Mothers funded CHW programs over 3 sites in New York, New Jersey and Pennsylvania.  Focus Groups with 18 CHW 15 CHW program staff 21 community partners  Participated in 9 focus-groups and 5 in-depth interviews  Interviews/focus groups were 60 min in length  Also reviewed 18 documents related to the evaluation process for CHW programs.</td>
<td>Interview and focus group data was coded/analyzed by three separate experiences researchers until data saturation reached.</td>
<td>For sustainability CHW programs need: strong supervisory structures, participation in regular care team meetings, interactions with peers/other CHWs, access to electronic health records and programming financial support. CHWs are utilized for health education, outreach, referrals for support/social services, assistance with scheduling.</td>
<td>Study focused on pregnant, postpartum and reproductive aged women with chronic conditions in urban areas of Northeast. Results may not be generalizable. Demographics of participants not known. Did not identify new themes but rather validated prior research findings about the myriad factors that are important for long term CHW program viability.</td>
<td>Level III High Quality</td>
<td>Qualitative study evaluation showed contributions to topic and transparency of methods/results.</td>
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appointments, taking patients to appointments, development of care plans, and track progress of health goals.

ACA recognizes CHWs as important members of the healthcare team and allows Medicaid to reimburse for services.

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<tr>
<th></th>
<th>Moore, A. A., Karno, M. P., Ray, L., Ramirez, K., Batenstein, V., Portillo, M. J., Rizo, P., Borok, J., Liao, D. H., Barron, J., del Pino, H. E., Valenzuela, A., &amp; Barry, K. L. (2016). Development and preliminary testing of a promotora-delivered, Spanish-language, counseling intervention for heavy drinking among male, Latino day laborers. <em>Journal of Substance Abuse Treatment, 62</em>, 96-101. 10.1016/j.jsat.2015.11.003</th>
<th>Pilot Study 2 group randomized control trial</th>
<th>N=29 day laborers in pilot study</th>
<th>Specifically studied a similar demographic (monolingual Spanish, immigrant, day laborers). PDS were able to educate and assist with a substance use disorder issue and improve outcomes. Improvement in AUDIT scores and reduction of alcohol intake – both overall weekly total and number of binge-drinking days. Extreme vulnerability of participants may limit efficacy of study and studied only those based, primarily from Mexico, males. Not generalizable. Increasing evidence that community-partnered research can improve recruitment, capacity to deliver interventions, health outcomes and sustainability.</th>
<th>Level I Good quality (small sample size, not generalizable, pilot study).</th>
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<td>5</td>
<td>Substance Abuse and Mental Health Services Administration. (2016). <em>A Collaborative Approach to the Treatment of Pregnant Women with Opioid Use Disorders</em>. HHS Publication No. (SMA) 16-4978. Rockville, MD. <a href="http://www.store.samhsa.gov">www.store.samhsa.gov</a>.</td>
<td>Practice and Policy recommendations</td>
<td>n/a</td>
<td>High rates of SUD during pregnancy are of great concern. Any solutions to treating SUD must be grounded in the community and reflect best practices. Important to identify the community’s</td>
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philosophy regarding who is “the patient” when a pregnant woman has SUD (i.e. the mother or the unborn child) and this can alter care and explain stigma.

Asking the mothers and community what needs to change is helpful. PDS can do this.
Appendix B

Statement of Non-Research Determination

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 749A/E

X 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:

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| DNP SOD Review Committee Member Name: | |
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Appendix C

Letter of Support from Agency

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 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 to help 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 enable 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.

Again, I’m excited and look forward to working with USF and the USF students, so that these opportunities can continue to benefit USF students. Save the Children’s partner staff but most importantly benefit the many families and children in the Central Valley our collective efforts will touch.

Warmly,
Salann Mitchell

Senior Specialist, Early Childhood

C4&3A—Rural Education
Mobile: 559-615-7810
Appendix D

Gap Analysis

Desired State

CHW students feel confident and able to address the specific health and illness needs of the communities in which they work.

Gap

CHW students do not have specific training in areas identified as needs related to specific illness and health issues in their communities.

Current State

CHW students trained for community, relationship building with families. Notice needs for specific knowledge of illness and health issues in their community.

Methods to Address Gap

CHW students will attend trainings specific to the knowledge of need, including role playing and case studies to facilitate confidence along with knowledge gained.

Gap Due to Knowledge

CHW students notice need for knowledge in areas of childhood obesity, prenatal care and recognition of substance abuse among pregnant women.

Diagram adapted from Creately.
https://creately.com/blog/examples/gap-analysis-templates-creately/
## Appendix E

### GANTT Chart

<table>
<thead>
<tr>
<th>Task Number</th>
<th>Task Title</th>
<th>Task Owner</th>
<th>Start Date</th>
<th>End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Material Offsite Meetings</td>
<td>Alicia K</td>
<td>9/1/21</td>
<td>12/31/21</td>
</tr>
<tr>
<td>1.3</td>
<td>Team Meetings Begin</td>
<td>TEAM</td>
<td>1/20/21</td>
<td>1/31/21</td>
</tr>
<tr>
<td>1.4</td>
<td>Team Meeting with CMU Researchers</td>
<td>Dr. Lambo</td>
<td>1/31/21</td>
<td>2/2/21</td>
</tr>
<tr>
<td>1.5</td>
<td>Initiate RFP for CMU Interview</td>
<td>Dr. Lambo</td>
<td>2/10/21</td>
<td>2/17/21</td>
</tr>
<tr>
<td>2.1</td>
<td>Qualitative Defined</td>
<td>TEAM</td>
<td>1/20/21</td>
<td>2/1/22</td>
</tr>
<tr>
<td>2.2</td>
<td>Budget</td>
<td>Dr. Lambo</td>
<td>1/20/21</td>
<td>2/1/22</td>
</tr>
<tr>
<td>2.3</td>
<td>Communications Plan</td>
<td>TEAM</td>
<td>1/20/21</td>
<td>2/1/22</td>
</tr>
<tr>
<td>2.4</td>
<td>Course Modules Writings</td>
<td>Alicia K</td>
<td>1/31/21</td>
<td>2/17/22</td>
</tr>
<tr>
<td>3.1</td>
<td>First Module</td>
<td>Alicia K</td>
<td>2/17/22</td>
<td>3/1/22</td>
</tr>
<tr>
<td>3.2</td>
<td>Second Module</td>
<td>Alicia K</td>
<td>3/10/22</td>
<td>4/10/22</td>
</tr>
<tr>
<td>3.3</td>
<td>Third Module</td>
<td>Alicia K</td>
<td>3/30/22</td>
<td>4/10/22</td>
</tr>
<tr>
<td>3.2.2</td>
<td>Fourth Module</td>
<td>Alicia K</td>
<td>4/14/22</td>
<td>4/28/22</td>
</tr>
<tr>
<td>4.1</td>
<td>Final Presentation</td>
<td>Alicia K</td>
<td>4/28/22</td>
<td>5/5/22</td>
</tr>
<tr>
<td>4.2</td>
<td>Final Presentation</td>
<td>Alicia K</td>
<td>4/28/22</td>
<td>5/5/22</td>
</tr>
<tr>
<td>4.3</td>
<td>Final Presentation</td>
<td>Alicia K</td>
<td>4/28/22</td>
<td>5/5/22</td>
</tr>
<tr>
<td>4.4</td>
<td>Executive Summary Complete</td>
<td>Alicia K</td>
<td>4/28/22</td>
<td>5/5/22</td>
</tr>
<tr>
<td>4.5</td>
<td>Final Presentation</td>
<td>Alicia K</td>
<td>4/28/22</td>
<td>5/5/22</td>
</tr>
</tbody>
</table>
Appendix F

Work Breakdown Structure
# Appendix G

## Communication Matrix

<table>
<thead>
<tr>
<th>COMMUNICATION</th>
<th>PURPOSE</th>
<th>MEDIUM</th>
<th>FREQUENCY</th>
<th>AUDIENCE</th>
<th>OWNER</th>
<th>DELIVERABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Initiation</td>
<td>Introduce project, review objectives and goals</td>
<td>Email Communication</td>
<td>Once</td>
<td>Interested Doctoral Students at USF</td>
<td>Project USF Faculty Advisor (Dr. Laomis)</td>
<td>Define students working on project</td>
</tr>
<tr>
<td>Development of Course Offerings for CHW students</td>
<td>Define course offerings and schedule for CHW student modules</td>
<td>Email Communication</td>
<td>As needed until defined</td>
<td>Doctoral Students assigned to project, Dr. Laomis, Ms. Mitchell</td>
<td>Dr. Laomis and Ms. Mitchell</td>
<td>Define course offerings, modules, classes and timeline Project schedule</td>
</tr>
<tr>
<td>Project Support</td>
<td>Ongoing support and feedback as project develops</td>
<td>Email Communication, text messages, phone calls, Zoom</td>
<td>As needed until project completion</td>
<td>Doctoral Student and Dr. Radose (advisor)</td>
<td>Doctoral Student and Dr. Radose (advisor)</td>
<td>Finished executive summary &amp; DNP final project presentation</td>
</tr>
<tr>
<td>Project Team Meetings</td>
<td>Brainstorm, review project status, discuss changes and proposals for project delivery</td>
<td>1-hour Zoom Calls</td>
<td>Weekly</td>
<td>Dr. Laomis, Ms. Mitchell, Doctoral Students assigned to project for Spring 2022</td>
<td>Dr. Laomis</td>
<td>Weekly updates and status checks on progress</td>
</tr>
<tr>
<td>Ad Hoc communications</td>
<td>Support and Collaboration</td>
<td>Email Communication, text messages, phone calls, Zoom</td>
<td>As needed until project completion</td>
<td>Four doctoral students working on Spring 2022 CHW course</td>
<td>Doctoral Students</td>
<td>None defined</td>
</tr>
<tr>
<td>Project Team and CHW Students</td>
<td>Needs Assessment</td>
<td>Zoom Call</td>
<td>One Time on Feb 4th</td>
<td>Project Team, Ms. Mitchell, &amp; CHW students</td>
<td>Ms. Mitchell</td>
<td>Finalize gap analysis and discuss needs assessment</td>
</tr>
</tbody>
</table>
Appendix H

SWOT Chart

<table>
<thead>
<tr>
<th>INTERNAL</th>
<th>EXTERNAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strengths</strong></td>
<td><strong>Weaknesses</strong></td>
</tr>
<tr>
<td>• Director of Save the Children is experienced and loyal to company</td>
<td></td>
</tr>
<tr>
<td>• USF Faculty Project advisor is committed and experienced</td>
<td></td>
</tr>
<tr>
<td>• Both organizations have excellent reputation locally</td>
<td></td>
</tr>
<tr>
<td>• Have contacts within the local community</td>
<td></td>
</tr>
<tr>
<td>• Current CHW-students are interested in asking for content</td>
<td></td>
</tr>
<tr>
<td>• Current cultural climate of recognizing the value that CHWs can add to healthcare outcomes</td>
<td></td>
</tr>
<tr>
<td>• Covid-19 pandemic makes in-person collaboration difficult</td>
<td></td>
</tr>
<tr>
<td>• First training will be over Zoom instead of in-person.</td>
<td></td>
</tr>
<tr>
<td>• Rollout of course content based on doctoral student schedule and not on a cohesive organized plan.</td>
<td></td>
</tr>
<tr>
<td>• Save the Children is a small organization with no current partnership with a medical clinic for CHW collaboration</td>
<td></td>
</tr>
<tr>
<td>• No current budget for providing trainings</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FAVORABLE</th>
<th>UNFAVORABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Opportunities</strong></td>
<td><strong>Threats</strong></td>
</tr>
<tr>
<td>• Covid-19 pandemic has caused increase in SUD and therefore, training is timely</td>
<td></td>
</tr>
<tr>
<td>• Flexibility and creativity in delivering content given lack of in-person opportunity</td>
<td></td>
</tr>
<tr>
<td>• CHW students currently cannot have face to face encounters because of Covid-19 pandemic so utilization of course content will require creativity and flexibility.</td>
<td></td>
</tr>
<tr>
<td>• Utilization of online educational platform for course delivery.</td>
<td></td>
</tr>
<tr>
<td>• Expand course offerings to other organizations locally.</td>
<td></td>
</tr>
<tr>
<td>• Covid-19 related issues with course delivery and ability for CHW students to continue working in the community.</td>
<td></td>
</tr>
<tr>
<td>• Lack of continuity for ongoing support and course delivery given the lack of funding and reliance on doctoral students from one university.</td>
<td></td>
</tr>
</tbody>
</table>
# Appendix I

## Proposed Budget

<table>
<thead>
<tr>
<th>Activity</th>
<th>Hours</th>
<th>Rate per Hour</th>
<th>Cost</th>
<th>Project Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research and Project Proposal Development</td>
<td>135</td>
<td>$83.38</td>
<td>$11,256.30</td>
<td>$11,256.30</td>
</tr>
<tr>
<td>Course Development / Content Creation</td>
<td>50</td>
<td>$83.38</td>
<td>$4169.00</td>
<td>$15,425.30</td>
</tr>
<tr>
<td>Power Point Creation / Canvas Course Site Utilization</td>
<td>10</td>
<td>$83.38</td>
<td>$833.80</td>
<td>$16,259.10</td>
</tr>
<tr>
<td>Actual Course Delivery (Zoom and In-Person)</td>
<td>7</td>
<td>$83.38</td>
<td>$583.66</td>
<td>$16,842.76</td>
</tr>
<tr>
<td>Executive Summary Preparation including outcome analysis</td>
<td>10</td>
<td>$83.38</td>
<td>$833.80</td>
<td>$17,658.56</td>
</tr>
</tbody>
</table>
## Appendix J

### Course Outline: Substance Use Disorder in Pregnancy

<table>
<thead>
<tr>
<th>Module Number and Title</th>
<th>Learning Objectives</th>
<th>Teaching Method</th>
</tr>
</thead>
</table>
| 1: Introduction to Substance Use Disorder in Pregnancy | 1. Discuss addiction using evidence-based language and concepts.  
2. Consider how bias and stigma affect substance use disorder treatment and outcomes. | Zoom  
Power Point  
Case Studies |
| 2: Screening Tools for Substance Use Disorder in Pregnancy | 1. Understand the comprehensive and integrated public health approach to early intervention called SBIRT for pregnant substance use disorder patients.  
2. Increase comfort using screening tools which are validated and useful in determining possible substance use disorder in pregnancy.  
3. Gain knowledge about brief intervention skills and how to apply them.  
4. Briefly discuss the risk of marijuana use during pregnancy. | Zoom  
Power Point  
Case Studies  
Practice with Screening Tools |
| 3: Methamphetamine Use Disorder in Pregnancy | 1. Understand the abuse patterns of methamphetamine, the type of drug class, and the legal/illegal ways that methamphetamine is used/taken.  
2. Recognize the dangers to both mother and fetus associated with methamphetamine during pregnancy and while breastfeeding.  
3. Discuss the non-pregnancy related concerns and dangers to the home from methamphetamine use, including legal issues.  
4. Practice applying a brief intervention related to methamphetamine use disorder in pregnancy. | Zoom  
Power Point  
Video  
Class Discussion |
| 4: Opioid Use Disorder in Pregnancy | 1. Review the differences in opioid addiction and opioid dependence and opioid tolerance, which are significant factors in determining opioid use disorder.  
2. Recognize the signs and symptoms of opioid withdrawal.  
3. Discuss the treatment options for heroin and methadone.  
4. Practice with a case study learning to discuss infant opioid withdrawal syndrome.  
5. Learn about the advocacy and importance of naloxone availability in communities affected by opioid use disorder epidemic. | Zoom  
Power Point  
Case Studies  
Video  
Class Discussion |
| 5: Alcohol and Tobacco Use Disorder in Pregnancy | 1. Explain the risks of alcohol and tobacco use during pregnancy.  
2. Recognize the need to screen all pregnant women universally for alcohol and tobacco use disorders.  
3. Discuss the risk of fetal alcohol spectrum disorder and other alcohol-related injuries to the developing fetus and the pregnant mother.  
4. Practice role-playing for a screening and brief intervention with a pregnant woman who is either using alcohol or tobacco.  
5. Understand the risk of alcohol and tobacco use on the infant and children even after delivery. | In-Person  
Power Point  
Role-Playing  
Class Discussion |
Appendix K

Outcome Table

<table>
<thead>
<tr>
<th>Module Number and Title</th>
<th>Pre-Quiz Average Percent</th>
<th>Post-Quiz Average Percent</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Introduction to Substance Use Disorder in Pregnancy</td>
<td>87.5</td>
<td>90.0</td>
<td>2.5</td>
</tr>
<tr>
<td>2: Screening Tools for Substance Use Disorder in Pregnancy</td>
<td>41.3</td>
<td>77.5</td>
<td>36.2</td>
</tr>
<tr>
<td>3: Methamphetamine Use Disorder in Pregnancy</td>
<td>65.9</td>
<td>87.9</td>
<td>22</td>
</tr>
<tr>
<td>4: Opioid Use Disorder in Pregnancy</td>
<td>67.9</td>
<td>91.1</td>
<td>23.2</td>
</tr>
<tr>
<td>5: Alcohol and Tobacco Use Disorder in Pregnancy</td>
<td>72.1</td>
<td>95.0</td>
<td>22.9</td>
</tr>
</tbody>
</table>

Average percent change between pre and post knowledge acquisition quizzes over the course: 21.39