Utilizing Community Health Workers to Support Latinx Women with Substance Use Disorder During Pregnancy

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Utilizing Community Health Workers to Support Latinx Women with Substance Use Disorder During Pregnancy

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N749A: DNP Qualifying Manuscript Development
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Abstract

Community health workers in the Latinx community, sometimes called *promotores de salud*, are employed in a variety of medical settings to help increase access to health promoting services such as awareness, education, and screening. Given their deep understanding of the culture and community in which they work, community health workers in Latinx communities are increasingly included in the healthcare team for their cultural sensitivity and versatility with hard-to-reach populations, including the support of pregnant women and children. An integrative review of the literature seeks to understand if community health workers can improve outcomes for pregnant women who also suffer from substance use disorder in the rural Latinx community. Results show that community health workers have effectively cared for patients with a variety of highly stigmatized issues, including some literature specific to substance use disorder and pregnancy. Clinical implications for improving outcomes for pregnant Latinx women with substance use disorder include practical and educational benefits for the community, the medical care team, the fetus, and the patient herself. The literature suggests that the inclusion of well-educated community health workers on the health care team specific to substance use disorder during pregnancy in the rural Latinx community can improve outcomes.

*Keywords*: community health worker, Latinx, substance use disorder, pregnancy, women
Utilizing Community Health Workers in California’s Central Valley to Support Women with Substance Use Disorder During Pregnancy

Community health workers (CHWs) are trusted members of a community that have a deep understanding of the culture and conditions of the people they serve (Lockhart et al., 2021). Community health workers are an important part of the health care workforce because evidence has shown that they help increase access to health promoting services such as vaccines, chronic disease management, breastfeeding and health education (Lockhart et al., 2021; Lewin et al., 2006). In the literature, Latinx CHWs are called promotores de salud and have demonstrated evidence at being highly effective in educating their communities on a variety of topics, including stigmatized issues such as end-of-life care, alcoholism, and opioid dependence (Zapata et al., 2021; Goebel et al., 2020; Jirapramukpitak et al., 2020). Promotores de salud have 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). For purposes of clarity, the term community health worker will be used throughout this paper although it is interchangeable with promotores de salud in the Latinx community.

Background

Rural Latinx Communities

In the United States, Latinx are the largest minority and in rural communities, they are the fastest growing minority group (Goebel et al., 2021; United States Department of Agriculture [USDA], 2021). Latinx migration from urban to rural areas as well as increased immigration in general have brought new life to rural communities, especially in the Southwest United States (USDA, 2021). Within these communities there is great diversity in the Latinx experience, from
generational and cultural gaps to men and women working and living without their families in this country, to recently arrived migrants, and to families having lived many generations in the United States (USDA, 2021). Rural Latinx communities tend to be poorer economically than non-Latinx white communities and therefore disproportionally suffer from the sequela of poverty, such as poorer health and reduced healthcare options, educational and employment disadvantages as well as increased rates of crime, mental health disease and substance use disorder (SUD) (USDA, 2021). As discussed in Melendez Guevara et al. (2019), these potentially traumatic experiences of daily life require a cultural humility approach to healthcare delivery which considers the values, beliefs, and behaviors of each unique Latinx community.

**Substance Use Disorder During Pregnancy**

There is ample evidence that SUD is a significant issue for rural Latinx communities. According to the most recent National Survey on Drug Use and Health: Hispanics, Latino or Spanish Origin (SAMHSA, 2018), pregnant Latinx women ages 15-44 specifically showed a significant increase in marijuana use. Marijuana use during pregnancy has been associated with preterm birth, still birth and fetal growth restriction, as well as neurological development concerns of hyperactivity and cognitive delays (SAMHSA, 2018). Further, the data show that in the year 2018, 39.5% of Latinx with SUD struggled with illicit drugs, 77.1% with alcohol and 16.6% with both (SAMHSA, 2018). The use of illicit drugs and alcohol, as well as tobacco, during pregnancy are associated with a variety of social, physical, and mental health issues for the Latinx woman and her child (Le & Coombs, 2021). The data show that there continues to be a large treatment gap for Latinx with SUD compared with other communities despite funding and resources aimed at removing and enhancing care options (SAMHSA, 2018). Le & Coombs (2021) describe that pregnant Latinx women with SUD are specifically burdened as they are...
reluctant to receive adequate prenatal care due to feelings of guilt or fear of losing custody of their children. In vulnerable populations, such as 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).

Therefore, the question that this integrative review of the literature seeks to understand is do CHWs improve outcomes for pregnant women with substance use disorder in the rural Latinx community.

**Review of the Literature**

**Search strategy**

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. Additional literature and resources were explored through bibliography reviews and professional clinical society websites and government data portals to assist in a robust analysis of all the data available for this topic.

**Inclusion and exclusion criteria**

Abstracts of articles were searched and examined to determine relevance. Inclusion criteria for articles about community health workers included: English-language, published between 2005-2021, full-text article available through library or online, and study 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 identified topic as well as any duplicate studies. After review of the 56 articles was complete, 22 were included for evidence appraisal and considered useful for this integrative review.

**Strength of the Evidence**

Twenty-two research articles were included for strengths appraisal using the Johns Hopkins Nursing Evidence Based Practice methodology for assessing evidence level and quality and are presented in Appendix A (Dang & Dearholt, 2018). One benefit of integrative reviews is that the inclusion of a wide variety of research, both qualitative and quantitative studies, case studies and non-research data, allows for comprehensive analysis and description of the identified problem (Dang & Dearholt, 2018). Of the 22 articles included for final integration in this review two studies were randomized controlled trials and one a systematic review (Level I), five studies were found to be quasi-experimental (Level II), seven studies were found to be Level III (qualitative, non-experimental and mixed-method non-experimental), one study was a clinical practice guideline (Level IV), and six studies were analyzed to be Level V (case studies, project improvement, integrative review and expert opinion). Given the broad range of information included in this integrative review it represents a powerful sampling of the available research into CHW utilization in a wide array of settings and with numerous population health concerns, including SUD.

**Literature Analysis**

Little is known about utilizing CHWs for identification and care of SUD patients during pregnancy, but the literature shows significant evidence that CHWs are affective at a wide array
of tasks in a dynamic and ever-expanding range of topics, including chronic disease management, health promotion, and access facilitation with underserved populations (Goebel et al., 2020; Covert et al., 2019). Zapata et al. (2021) and Moore et al. (2016) both showed that CHWs can be trained to effectively deliver non-judgmental opioid dependence education and treatment options and counsel patients about alcohol reduction using the Alcohol Use Disorder Identification Test (AUDIT), respectively. Women are increasingly entering pregnancy with chronic health issues, with SUD being one of those which takes on a more urgent tone, requiring treatment and care for the mother and her unborn child (Cunningham et al., 2020). In the literature there is evidence that stigmatized health issues, such as HIV testing and education, can be successfully delivered to underserved, highly affected communities by CHWs (Young et al., 2019). Pan et al (2020) also showed that CHWs can improve outcomes for pregnant women in an underserved urban area of New York State, including some pregnant women with SUD. Community health workers can be trained to provide services such as helping patients navigate healthcare systems, providing health-specific education, referring to social service organizations, and helping patients develop after-care and disease management care plans (Mehra et al., 2020). Jam et al. (2019) also documented that with medication management training, CHWs can increase their confidence for helping community members with this important health care skill. This is important in SUD especially for opioid dependent pregnant patients who are enrolled in buprenorphine or methadone treatment (Substance Abuse and Mental Health Services Administration (2016).

Given the focus on the Latinx population, the literature specifically addresses the effectiveness of CHWs in a variety of settings, including palliative care, chronic disease management, alcohol use counseling, cervical cancer screening, healthy dietary and exercise
education (Goebel et al., 2021; Carvajal et al., 2018; Cheun & Loomis, 2018; Fleming et al., 2018; Moore et al., 2016; Capitman, 2009). There are general challenges described in the literature for the CHW model to be effective and sustainable as well as issues specific to the Latinx community. Cunningham et al. (2020) showed that even with Medicaid reimbursement for services, a sustainable CHW program required medical supervision and robust collaboration between the community agencies and the supervising clinic. Standardized CHW core competencies and strong workplace frameworks were most effective at supporting a sustainable CHW role (Covert, 2019). Mehra et al. (2020) found that when it specifically comes to CHW-led maternal health issues, a strong supervisor, regular care team meetings, reliable and frequent interaction with other CHW peers, and financial support were all of utmost importance in the effective delivery of care to this vulnerable population. With specific attention to CHWs, Melendez Guevara et al. (2021) found that unique circumstances in the Latinx community such as structural and systemic inequities, precarious finances, and isolation by race especially related to immigrant status all contributed to difficulty with CHW-led initiatives to identify adverse childhood events such as parental SUD, violence, and abuse, in this population. Balancing work and family responsibility, the power imbalance with men in the home and medical community, setting boundaries and managing emotional impact of working with sick and suffering individuals, language barriers, lack of cultural understanding from some health care providers, feeling disheartened by cultural beliefs of some Latinx participants, and lack of transportation for themselves and community all further contribute to the issues faced by Latinx CHWs and the programs that seek to utilize them (Orpinas et al., 2021).

Limitations
There is scant literature specifically addressing CHW-led initiatives for supporting pregnant Latinx patients with SUD and while there is evidence that CHWs work well with other stigmatized illnesses, there are general barriers and limitations to the effectiveness of this model. The challenges of CHW training, supervision and funding are significant, but more nuanced barriers specific to the Latinx community include an element of fatalism that is referenced in the literature, meaning Latinx community members don’t seek out care for medical illnesses as they feel that nothing can be done to stop the progression of illness (Godecker et al, 2013). A normalization of violence in the community is also mentioned specifically for this community and it affects women and children disproportionally (Melendez Guevara, et al., 2021). Finally, there are significant challenges that CHWs face in many Latinx communities with educating members on the importance of preventive medicine (Orpinas et al., 2021).

Discussion

Given the review of literature results which show 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. 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 judgement 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.

**Clinical Implications**

Health care providers are now, more than ever, accountable for health outcomes and morbidities related to social and economic factors in the community and therefore CHWs are increasingly viewed as a viable and effective workforce for addressing these community-specific social risks (Pan et al., 2020). Medical primary care offices, schools and other social service programs can benefit from the utilization of CHWs to increase access to the organization’s services for hard-to-reach communities (Cunningham et al., 2020; Hartzler et al., 2018). Improving outcomes for pregnant women with SUD and their children requires healthcare professionals to think about creative ways to reduce barriers to care and address psychosocial risks (Pan et al., 2020). In 2014 the Affordable Care Act created opportunities for expansion of the health care team in innovative and affordable ways, which include Medicaid reimbursement for the work that CHWs contribute to the health of their community (Lockhart et al., 2021; Mehra et al., 2020). According to guidelines from the Substance Abuse and Mental Health Services Administration (2016), a collaborative, multi-system approach best serves the needs of
pregnant women with a SUD. Community health workers are trained to provide case management, coordination of appointments and medications, health education and emotional support to the individuals and families in the communities in which they reside. Policies that provide the ability for organizations to bill for CHW services can ensure sustainability of this valuable link in the multi-disciplinary health care team for pregnant SUD patients (Cunninghman, et al., 2020).

Summary

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). An effective curriculum should include topics about sexuality, violence, drug use, preventive care, mental health care, maternal health, as well as whatever issues identified by the CHWs themselves (Fleming et al., 2018). Caravajal et al. (2018) further 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. Training CHWs to educate pregnant SUD women about substance abuse in general, advocate for their treatment, and physically bring them to
appointments can make a difference in improved outcomes for both mother and baby as well as the community in general.
Reference


County of Fresno Department of Behavioral Health and Substance Use Disorder Services. (2020). *Fresno County’s Alcohol and Other Drug Strategic Prevention Plan*. https://www.co.fresno.ca.us/home/showdocument?id=17228


10.2105/AJPH.2020.305630


10.1097/FCH.0000000000000286


https://doi.org/10.1370/afm.2208


Substance Abuse and Mental Health Services Administration. (2016). A collaborative approach to the treatment of pregnant women with opioid use disorders. HHS Publication No. 16-
4978. Substance Abuse and Mental Health Services Administration: Rockville.

http://store.samhsa.gov


https://www.ers.usda.gov/topics/rural-economy-population/rural-poverty-well-being/#geography


## Appendix A

### Johns Hopkins Nursing Evidence-Based Practice Evidence Appraisal Table

**PICOT Question:** Does the education and utilization of CHWs, compared with current “home visitors”, improve outcomes for pregnant SUD women in California’s Central Valley communities?

<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>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Goebel, J., Bird, M., &amp; Martinez, I. (2020). Empowering the Latino community related to palliative care and chronic disease management through <em>promotores de salud</em> (community health workers). <em>Journal of Palliative Care, 24</em>(3), 423-427.</td>
<td>Non-experimental qualitative design</td>
<td>N=76 <em>promotores de salud</em> (PDS). N=2734 Latinx community members California State University at Long Beach partnered with Center for Latino Community Health, Evaluation and Leadership Training and <em>Familias en Accion</em>. Four PDS training workshops occurred over 4-month period (16-hours of training per workshop).</td>
<td>PDS highly effective at disseminating information and educating their community. PDS deliver information in a culturally sensitive manner since they have similar values/experiences as community. PDS help bridge communication issues for non-English speakers and medical community. Palliative care is misunderstood in this community and PDS helped address (frame as part of chronic disease management – possibly like SUD)?</td>
<td>6-month post-training telephone conversation with PDS to assess: how many community members reached, which part of presentation most helpful and what else did they want to know more about? Qualitative data from interviews coded and analyzed</td>
<td>Study lacked strong methodology and objective outcomes. Was primarily a feasibility study for educating PDS. Future training should include community resources and support group information.</td>
<td>Level III A/B Good quality with transparency, self-reflection and scrutiny.</td>
</tr>
<tr>
<td>2</td>
<td>Cunningham, S. D., Riis, V., Line, L., Patti, M., Bucher, M., Durnwald, C., &amp; Srinivas, S. K. (2020). Safe Start</td>
<td>Quasi-experimental qualitative study</td>
<td>Study group N=291 patients (pregnant with CHW)</td>
<td>The use of CHW is a promising strategy to reduce the incidence and Multivariate logistic and Poisson regression to compare adequacy of</td>
<td>See Appendix online for examples of CHW trainings</td>
<td>Level II B Good quality with sufficient sample</td>
<td></td>
</tr>
</tbody>
</table>

Prospective cohort study to assess effectiveness of CHW program. 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.

Impact of chronic disease during pregnancy.

Implementation 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).

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 inadequate prenatal care and higher odds of postpartum visit attendance.

No difference in neonatal ICU admission but shorter lengths of stay for study participants.

(www.ajph.org)

Issues with sustainability – mostly funding related and establishing contracts to gather patient referrals.

<p>| 3 | 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 Integrative review of the literature Expert panel recommendations</em> | N=15 experts (6 CHW/CHW supervisors, 4 academic researchers, 2 physicians, 27 competencies using expert panel and Likert-scale survey in person and electronically) | (<a href="http://www.ajph.org">www.ajph.org</a>) | Sample is specific to Southern USA and workers at non-profit organizations may not be generalizable. | Level V High Quality |</p>
<table>
<thead>
<tr>
<th>Journal of Public Health, 109(2), 320-327.</th>
<th>Workforce framework development with linked validated competencies.</th>
<th>3 public health practitioners. N=58 competency validators important for addressing health disparities and maximizing CHW effectiveness. CHW workforce expected to expand by 18% by 2026. CHW Framework describes Save the Children’s future CHWs as level I workers.</th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 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.</td>
<td>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. Study focused on pregnant, postpartum and reproductive aged women with chronic conditions in urban areas of Northeast. Results may not be generalizable. Demographic s 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>
</tr>
<tr>
<td>Level III</td>
<td>High Quality</td>
<td>Qualitativ e study evaluation showed contributi ons to topic and transparen cy of methods/results.</td>
<td></td>
</tr>
</tbody>
</table>
progress of health goals. ACA recognizes CHWs as important members of the healthcare team and allows Medicaid to reimburse for services.

| 5 | Pan, Z., Veazie, P., Sandler, M., Dozier, A., Molongo, M., Pulcino, T., Parisi, W., & Eisenberg, K. W. (2020). Perinatal health outcomes following a community health worker–supported home-visiting program in Rochester, New York, 2015–2018. *American Journal of Public Health, 110*(7), 1031-1033. | Quasi-Experimental Study versus Study group | Improving rates of adverse pregnancy outcomes requires strategies that eliminate barriers to receiving high quality care while addressing psychological risks. Teams of MSWs paired with CHWs serve women by increasing linkage with health and community support services, educating participants, and providing support and advocacy. Improvements in perinatal outcomes likely stem from improved care linkage, education and psychosocial support. Women with SUD need additional support. | Chi-squared test and logistic regression to compare: maternal demographics and maternal and infant health outcomes between mothers in the study group and control group. Study participants had fewer adverse outcomes (lower rate of preterm birth and low birth weight infant) and fewer neonatal ICU admission rates but higher odds of attending a postpartum visit. | None noted | Level II B Good Quality |
|---|---|---|---|---|---|---|---|
inequities, precarious finances, and isolation by race, SES and ethnicity, all lead Latinx families to not seek mental health care and experience significant obstacles.

Cultural humility fundamental for working effectively with Latinx communities regarding mental health and using PDS is one way to address this.

continued exposure to trauma, interpersona l barriers, individual barriers, family barriers and practitioner barriers.

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Evidence/Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are the barriers that prevent Latinx families from seeking mental health care?</td>
<td>Inequities, precarious finances, and isolation by race, SES and ethnicity, all lead Latinx families to not seek mental health care and experience significant obstacles. Cultural humility is fundamental for working effectively with Latinx communities regarding mental health and using PDS.</td>
</tr>
<tr>
<td>How can these barriers be addressed?</td>
<td>Continued exposure to trauma, interpersonal barriers, individual barriers, family barriers, and practitioner barriers can be addressed.</td>
</tr>
</tbody>
</table>

Qualitative case study approach

N=18 interviews with Medicaid Health Home administrators representing N=29 New York State Medicaid Health Homes across 7 counties. 5 urban, 5 rural and 8 mixed urban/rural. Represented up to 18,000 patients.

n
<p>| CHWs worked well with enrolling patients into Medicaid Health Homes, coordinating patient care and providing social support. Barriers to CHW integration included: no direct reimbursement for services, lack of clarity for CHW roles and responsibilities, and no explicit external policy for their use in Medicaid Health Homes. Qualitative thematic analysis used to explore domains and themes from interviews. Diffusion of Innovations Framework was utilized to develop semi-structured interview guidelines. This framework seeks to explain the process through which individuals decide on new ideas by examining 5 stages: knowledge, persuasion, | Findings not generalizable to all states because Medicaid Health Home implementation is state-specific. Interviews only with CHW administrators, not CHWs themselves who might have different views/though ts/ experiences. Consider views of CHWs in future studies. | Level III A/B Good Quality |
| Page | Author(s) | Description of Efforts to Implement Prior Research in CHW-Led Implementation of HIV Testing in Hard-to-Reach Community | N=4 CHWs N=1672 patients educated about HIV N=529 patients tested/link to care | Participants indicated that they preferred the CHW-led culturally sensitive outreach methods compared to other strategies such as mobile clinic testing. CHW raised local community awareness and built trust. CHW helped reinforce self-efficacy and program sustainability within the community. Trust from the community takes time – even with CHW involvement. | Population demographics analyzed using SPSS. Frequency data to analyze HIV-transmission behaviors, prior HIV testing and acceptability. Chi-square analysis to examine differences among subgroups in test completion and HIV care access. | Gentrification changes the demographics of the community and requires programs to keep monitoring the “community” and how to best serve them. Crime and safety was an issue needing discussion for CHWs to work effectively. Working with local police and political representatives as well as only hosting events during the daylight hours improved safety for CHW. | Level V Program Evaluation |
|------|-----------|-------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------|---------------------|
| 10   | Zapata, J., Colistra, A., Lesser, J., Flores, B., Zavala-Idar, A., &amp; Moreno-Vasquez, | Program Implementation | N = 26 CHWs from 24 | CHW educated on SUD from point of view | Pre and post test knowledge and | Should have been offered in both Spanish and | | Level V High Quality |</p>
<table>
<thead>
<tr>
<th></th>
<th>Author(s)</th>
<th>Year</th>
<th>Study Design</th>
<th>Participants</th>
<th>Interventions</th>
<th>Outcomes</th>
<th>Study Limitations</th>
<th>Impact</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>Fleming, K., Simmons, V. N., Christy, S. M., Sutton, S. K., Romo, M., Luque, J. S., Wells, K. J., Gwede, C. K., &amp; Meade, C. D. (2018). Educating Hispanic women about cervical cancer prevention: Feasibility of a promotora-led charla intervention in a Pilot single-arm feasibility study</td>
<td>N=60 participants N=6 PDS</td>
<td>PDS cultural knowledge and trustworthiness can improve health outcomes. Social Cognitive Theory and Health Belief Model useful for this Health literacy assessed using Single Item Literacy Tool and HPV/Cervical cancer knowledge assessed using 5 question test from</td>
<td>Small sample size and single arm design. Specific population of one community of farm worker families might not be generalizable.</td>
<td>Level II B Quasi-experimental study but with small sample size and no control, although results are well organized</td>
<td></td>
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</tbody>
</table>

| Literature review / Integrative review | Various studies on PDS and cervical cancer screening were included as evidence that collaboration between APRNs and PDS was an effective way to deliver culturally competent education and care for vulnerable population of Latina women of Mexican descent. | Nurses and APRNs who work with this population can partner with PDS to increase Pap testing and HPV knowledge/vaccination. Community outreach regarding endemic health morbidities in vulnerable communities are best delivered by trusted culturally sensitive individuals, such as PDS. PDS contribute to improved care, reduced health care costs, empowerment of community, and culturally useful for further development of programs. | None noted. Review focused on specific group of women and two health concerns (cervical cancer screening and HPV vaccine). Level V Good Quality |
|   | Carvajal, S. C., Huang, S., Bell, M. L., Denman, C., Zapien, J. G., Cornejo, E., Chang, J., Staten, L. K., & Rosales, C. (2018). Behavioral and subjective health changes in US and Mexico border residing participants in two promotora-led chronic disease preventive interventions. *Health Education Research, 33*(6), 522-534. | Quasi-experiment al evaluation of program implementation of two PDS led health initiatives. Testing at baseline, program completion and 3-month follow up. N = 347 Pasos Adelante N = 171 Meta Salud Community PDS-based curriculum development important part of culturally sensitive programming. Self-selection in this study showed greater participation of women. It appears PDS led interventions focusing on women are important in this community as reaching more women will have a broader impact on the family/community in general. Behavioral targets of intervention assessed using international health behavior surveillance tools for daily fruit servings, milk type, sugary drink consumption, etc. Test expected changes in subjective health markers with standard self-report of excellent, very good, fair/poor. | Lack of comparison groups, no random assignments. Self-selection of participants into the study can influence motivation and results. Interestingly, this study analyzed two different cohorts across different communities (in the USA and in Mexico) and results were similar, suggesting some generalizability. | Level II B Quasi-experimental study |
|   | Gutiérrez, Á, De Trinidad Young, M., Dueñas, M., García, A., Márquez, G., Chávez, M., Ramírez, S., Rico, S., Bravo, R. L., & Young, M. D. T. (2021). Laboring with the heart: Promotoras’ Transformations, professional challenges, and relationships with communities. *Family & Community Health, 44*(3), 162-170. | Qualitative methodological study. Used community-based participatory research study design. To document the PDS self-perceptions of their role, position, and impact on the communities they serve. Organizational lessons they serve will | PDS follow the CHW model and have shown to effectively engage in outreach, health screening, and health education over diverse array of issues. PDS have unique access to most vulnerable and hard to reach populations, including undocumented, limited English language, and limited literacy skills. | Not designed to be representative of all PDS experiences but rather provide a guideline for other programs to sample their own PDS well-being. | Level III B |
better understand how to utilize PDS and work strategically to reduce health disparities in target community.

PDS typically work at intersection of community health and underserved community and much literature focused on effectiveness. More studies needed to see limitations and lived experiences of the PDS themselves.

<p>| 16 | Lewin, S.A., Dick, J., Pond, P., Zwarenstein, M., Aja, G., van Wyk, B., Bosch-Capblanch, X., Patrick, M. | <a href="https://doi.org/10.1002/14651858.CD004015.pub2">Lay health workers in primary and community health care</a> | Systematic Review | 48 studies Individual and cluster RCTs | CHW utilization helpful in promoting immunization uptake and breastfeeding as well as reducing childhood morbidity and mortality. Median duration of CHW training was 6 days. Included studies of CHW working to prevent/reduce child abuse and promote parent-child mental health. The use of CHWs can be applied across many settings using prior studies as a template/guideline. CHWs effective when they themselves have experienced moderate to high evidence that CHW improve immunization rates and reduce childhood obesity. Limitations are that majority of data from developed nations and not underdeveloped so outcomes might not be as great/significant. No studies showing “generalist” CHW effectiveness. All studies were specific to one “task”. | Level I Good Quality |</p>
<table>
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<tr>
<th></th>
<th>Jirapramukpitak, T., Pattanaseri, K., Chua, K., &amp; Takizawa, P. (2020). Home-based contingency management delivered by community health workers to improve alcohol abstinence: A randomized control trial. <em>Alcohol &amp; Alcoholism, 55</em>(2), 171-178.</th>
<th>RCT</th>
<th>N = 161 adults with current alcohol dependence.</th>
<th>Study focused mostly on the CM aspect and not the CHW involvement. But provides evidence that CHWs are valued part of the healthcare system and can be trained and work with patients who have SUD. Study supports growing body of evidence that CHWs can deliver mental health care.</th>
<th>Home visit only. Home visit with low $CM$. Home visit with high $CM$. All home visits delivered by CHWs including alcohol breathalyzing. 18% of high $CM$ group sustained abstinence.</th>
<th>Future research needed on long term cost effectiveness of this type of program.</th>
<th>Level I High quality</th>
</tr>
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<tbody>
<tr>
<td>17</td>
<td>Jam, V. A., McKay, K. L., &amp; Holmes, J. T. (2019). Identifying medication management confidence and gaps in training among community health workers in the United States. <em>Journal of Community Health, 44</em>(6), 1180-1184.</td>
<td>Cross-sectional survey study</td>
<td>N = 77 CHWs 32-item survey administered</td>
<td>CHW report a need for medication management training within CHW training. Especially important for SUD because many patients utilize medication assisted treatment (i.e. Suboxone). The CHW engaged in three types of medication management: obtaining medication, medication adherence counseling and medication education. 79.2% of CHW provide medication management services while only 19.5% received any training about this. 57.1% rate confidence in medication management as &quot;poor/fair&quot;.</td>
<td>Small sample size and limited to only three US states. Not necessarily generalizable. Possibility of response bias since voluntary participation.</td>
<td>Level III Good</td>
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<tr>
<td>18</td>
<td>Capitman, J.A., Pacheco, T.L., Ramirez, M., &amp; Gonzalez, A. (2009). Quality Improvement Program</td>
<td>Quality Improvement Program</td>
<td>N = 312 community participants</td>
<td>PDS were able to get documented and statistically significant improvements in all</td>
<td>Study did not look directly at barriers to access which</td>
<td>Level V High Quality</td>
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<td>20</td>
<td>Substance Abuse and Mental Health Services Administration. (2016). A Collaborative Approach to the Treatment of Pregnant Women with Opioid Use Disorders. 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 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.</td>
<td>n/a</td>
<td>Practical program and policy recommendations but with the caveat that not all communities have the resources necessary to implement. Therefore, assessments and data needed before planning can start.</td>
<td>Level IV High quality.</td>
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<td>Page</td>
<td>Authors</td>
<td>Title</td>
<td>Study Design</td>
<td>Sample Size</td>
<td>Findings</td>
<td>Measured Domains of Risk</td>
<td>Level of Quality</td>
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Inability to capture all pregnant patients given the limitations of some intakes with complicated issues which might have elicited more broad data.

Given lack of formal clinical education for CHWs, it is important that when delegating screening that the tool be standardized, easy to administer and score and not dependent on clinical judgement.

Adequate and ongoing CHW supervision and training are essential.

Limited in generalizability based on small size of interviewers and one setting with one structured interview.

Statistical analysis to determine if there was a consistent pattern of differentiate risk reporting by interviewer type.

Limited in generalizability based on small size of interviewers and one setting with one structured interview.

Measured in generalizability based on small size of interviewers and one setting with one structured interview.

Inability to capture all pregnant patients given the limitations of some intakes with complicated issues which might have elicited more broad data.

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As Community Health Workers. *Health Promotion Practice*, 22(4), 502-511. 10.1177/1524839920921189

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<th>personal challenges. Challenges noted: balancing work and family responsibilities, power imbalance with men affected their work, setting boundaries and managing emotional impact of working with community, language barriers, lack of cultural understanding limited effective interactions with some health care providers, feeling disheartened by cultural beliefs of some Latinx participants, and lack of transportation for themselves and community.</th>
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Abbreviations: ACA = Affordable Care Act, ACE = adverse childhood event, APRN = Advanced Practice Registered Nurse, AUDIT = Alcohol Use Disorder Identification Test, CHW = community health worker, CM = contingency management, HTN = hypertension, ICU = intensive care unit, IPV = intimate partner violence, NAS = neonatal abstinence syndrome, PDS = promotores de salud, SES = socioeconomic status, RCT = randomized controlled trial, RN = registered nurse, SUD = substance use disorder