

Developing a Binational Community-Based Participatory Research Partnership to Address Reproductive Health on the U.S.–Mexico Border

Elizabeth Salerno Valdez, PhD, MPH¹, Rosi Andrade, PhD¹, Martha Miker Palafox, PhD²

(1) University of Arizona's Southwest Institute for Research on Women; (2) El Colegio de la Frontera Norte

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Abstract

Background: U.S.–Mexico border communities bear a disproportionate burden of adolescent pregnancy. Binational community-based participatory research (CBPR) partnerships can help to remediate identified health disparities.

Objectives: The purpose of this article is to share the experiences and lessons learned from the development of a binational CBPR partnership.

Methods: Mexican and U.S. academics, community members, and *promotoras* used the Community Community-Campus Partnerships for Health (CCPH) Guiding Principles of Partnership to form a binational CBPR partnership to remediate adolescent pregnancy on the U.S.–Mexico border.

Lessons Learned: We learned how to use existing networks to form the partnership and leverage resources to address an existing health disparity. We learned the importance of engaging in effective communication with partners and the necessity of flexibility when working within a different governmental culture. We learned how to leverage critical partnerships to bridge national, cultural, and linguistic differences to conduct binational partnership research, and to be responsive to unforeseen situations when working in low-resource communities.

Keywords

Community health partnerships, health disparities, Mexico, public health, women's health

Binational partnerships founded on CBPR principles can help to remediate identified health inequities in U.S.–Mexico border communities. Severe poverty and the lack of basic services in the region, combined with unique sociocultural factors, often result in poor health indicators on both sides of the border.¹ Initiatives on both sides of the U.S.–Mexico border continue to fund, promote, and strengthen binational collaborations, including CBPR-based approaches, to address health equities in the border region through research and teaching, such as the University of California Berkeley's Research Program on Migration and Health (PIMSA for its Spanish acronym)² and Mexico's Consejo Nacional de Ciencia y Tecnología (CONACYT)-funded *La Red Temática Binacional en Salud Fronteriza*/ Binational Thematic Network.³ The academic institutions and governmental organizations behind these binational initiatives

recognize the symbiotic relationship of U.S.–Mexico border communities. The culture, economy, history, and social ties within the border region are truly shared. Notwithstanding the political and physical boundary of the border fence, community members living on opposite sides of the border cross daily for work, school, and social events. Binational research can expand our understanding of border health and offers critical insights into the processes affecting health outcomes in the both the U.S. and Mexico.⁴ However, despite an identified need for binational approaches, there is a paucity of literature on how to form and sustain such binational research collaborations to address health disparities in the border region.

One such health indicator is the high rate of adolescent pregnancy among border residents.^{5,6} Despite national initiatives in both the U.S. and Mexico to decrease these rates,^{7,8} adolescents living on either side of the border experience

higher birth rates compared with non-border adolescents in both countries (73.8/1,000 women ages 15–19 years vs. 64.6/1,000 in the United States; 86.7/1,000 vs. 72.5/1,000 in Mexico, respectively).⁶ Nogales, Arizona, is located directly across the U.S.–Mexico border from Nogales, Sonora, Mexico. The state of Sonora experiences one of the highest rates of adolescent births in Mexico, with one in five births attributable to adolescent mothers (10,689 annual adolescent births out of 46,485 total annual births).⁹ Nogales, Mexico, with an average rate of 1,000 annual births attributable to adolescent mothers, accounts for 10% of adolescent births in the state of Sonora (10,689 annual adolescent births), despite comprising only 7% of the state's population.⁹

OBJECTIVES

The purpose of this article is to share the lessons learned in the development of infrastructure for our binational CBPR partnership between Mexican academics, U.S. academics, community members, and *promotoras* to remediate reproductive health inequities, specifically adolescent pregnancy, on the Mexico side of the U.S.–Mexico border.

METHODS

Approach

According to Israel et al.,¹⁰ CBPR is a collaborative, partnership approach to research that equitably involves community members, organizational representatives, and researchers in all aspects of the research process. Partners contribute their expertise and share responsibilities and ownership of the research. This collaborative process then increases the understanding of a given phenomenon which can be incorporated into action to enhance the health and well-being of community members.¹⁰ We used the CCPH Guiding Principles of Partnership to guide the development of this binational research partnership.¹¹ These principles are meant to serve as a model to create community–campus partnerships that bring diverse groups of people together to identify new ways of thinking, sustain authenticity of that partnership, and achieve change at the community level.¹¹

The project relied on existing *promotoras* as community partners. The *promotora* or community health worker, as defined by the American Public Health Association, is a

frontline public health worker who is a trusted member of and/or has an unusually close understanding of the community served.¹² The *promotora* can serve as a liaison, link, and intermediary between health and social services and the community to facilitate access to services and improve the quality of and cultural competence in service delivery.¹²

Setting

The project took place in Luis Donaldo Colosio, a young *colonia* (unincorporated neighborhood established some 15 years prior) in Nogales, Mexico. Originally established to live outside the congestion of the inner city, the *colonia* is now overcrowded and experiences related social issues, including high rates of adolescent pregnancy, limited access to health care and other public services, and high rates of violence.¹³ Most residents of this *colonia* are recent immigrants (within the last 10 years) from other parts of Mexico, who are primarily engaged in the *maquiladora*, or factory, industry.¹³ Nogales is well-suited for the CBPR and *promotora*-based approaches for two reasons. CBPR is not new to Nogales; it has been used successfully in a variety of community-based and health care settings to address a diversity of health issues and effect policy change.^{14,15} Nogales is served by an existing network of *promotoras* employed by the local municipality.

RESULTS: DEVELOPMENT OF A BINATIONAL CBPR PARTNERSHIP

The CCPH Guiding Principles of Partnership guided the development of this binational CBPR partnership.¹⁶ Table 1 lists these principles and how the academic partners and community partners adhered to them to successfully form the partnership. The academic partners, the University of Arizona's Southwest Institute for Research on Women (UA-SIROW) and *El Colegio de La Frontera Norte*, the College of the Northern Border (El COLEF) met while attending the Binational Collaboration for Healthy Communities in the Arizona-Sonora Border Region Network, which aims to provide a venue for students and researchers working to address health issues in the U.S.–Mexico border region to share their research projects, and support for future research ideas and collaborative projects. The academic partners developed a proposal for the University of California Berkeley's PIMSA program to address increasing adolescent pregnancy rates in Nogales, Mexico.²

Table 1. Operationalizing the CCPH Guiding Principles of Partnership

CCPH Principles	Partnership Development Activities
1. The partnership forms to serve a specific purpose and may take on new goals over time.	UA-SIROW presented to El COLEF a potential application for extramural funding and a draft for a specific purpose. Together they agreed upon a mission, values, goals, measurable outcomes, and accountability for the 2-year project.
2. The partnership agrees upon mission, values, goals, measurable outcomes and processes for accountability.	The team collaboratively developed the IRB application, which required them to overcome various institutional hurdles. In the process, they developed trust, respect, and commitment to the project.
3. The relationship between partners in the partnership is characterized by mutual trust, respect, genuineness, and commitment.	El COLEF engaged the CCC for the Municipality of Nogales to join the research team, who had extensive relationships with the community and is the leader of <i>promotoras de desarrollo social</i> (social development CHWs). The binational research partners offered complementary skills and resources to the project.
4. The partnership builds on identified strengths and assets, but also works to address needs and increase capacity of all partners.	In the next phase of the project, the CCC and community partners will adapt a sexual health curriculum, thereby building capacity among the <i>promotoras</i> and giving them another tool to use in their work with community members.
5. The partnership balances power among partners and enables resources among partners to be shared.	The project partners gained community approval for the project, through the approval by, and collaboration with, the municipal government.
6. Partners make clear and open communication an ongoing priority in the partnership by striving to understand each other's needs and self-interests, and developing a common language.	The academic partners and CCC invited local women to an informational session to describe the project. The informational meeting provided a safe space to share project ideas and receive valuable community insight. The outcome of that meeting led to the formation of the CAB and solidified community involvement at an early stage of the project.
7. Principles and processes for the partnership are established with the input and agreement of all partners, especially for decision making and conflict resolution.	The CAB established written and verbal agreements and objectives for CAB activities.
8. There is feedback among all stakeholders in the partnership, with the goal of continuously improving the Partnership and its outcomes.	The CAB objectives/project activities were the adaptation and delivery of a sexual health curriculum for the community of Nogales, Mexico.
9. Partners share the benefits of the Partnership's accomplishments.	The CAB has plans for sustainability of the partnership, including the adaptation and delivery of the sexual health curriculum, dissemination of the results, and subsequent publications.
10. Partnerships can dissolve, and when they do, need to plan a process for closure.	The intervention will directly reflect the needs of the community and the sociocultural environment.
11. Partnerships consider the nature of the environment within which they exist as a principle of their design, evaluation, and sustainability.	
12. The partnership values multiple kinds of knowledge and life experiences.	

Abbreviations: CAB, community advisory board; CCC = Coordinator of Community Centers; CCPH = Community Community-Campus Partnerships for Health; CHW = community health worker; El COLEF = College of the Northern Border; UA-SIROW = University of Arizona's Southwest Institute for Research on Women.

Existing professional networks, infrastructure, and community relationships contributed to the development of mutual trust, respect and commitment to the project (CCPH principles 3 and 4).¹¹ UA-SIROW and El COLEF offered complementary skills and resources to the project. UA-SIROW is a research institute whose mission is to improve the lives of

women and girls—particularly those living in the Southwest U.S.—through inter-disciplinary and inter-institutional research and action projects. El COLEF is a Mexican institute of higher education, specializing in teaching and research in the social sciences with a focus on border issues. UA-SIROW and El COLEF have reputable histories and extensive experience

using CBPR and *promotora*-based approaches. El COLEF engaged the Coordinator of Community Centers (CCC) for the Municipality of Nogales, a governmental agency, with whom El COLEF has a long-standing relationship, to join the research team as a community partner. The CCC supervises the *promotoras de desarrollo social* (social development community health workers) and her role was to identify and discuss resources and recruitment of *promotoras*, as well as lend her unique knowledge to the curriculum adaptation in the next phase of the project. Together, the project partners worked to develop the human subjects' protection program institutional review board approval, a process that proved to test and solidify each partner's commitment to the project (see Lessons Learned). Next, the partners facilitated an informational session open to the *colonia* at the local community center to recruit community advisory board (CAB) members. Sixteen women and their adolescent daughters attended the session and were extremely receptive to the project. The CAB consisted of the two academic partners from UA-SIROW, two academic partners from El COLEF, the CCC, five local *promotoras de desarrollo social*, and three local women from the *colonia*. Table 2 lists the organizational partners and their roles and responsibilities in the project.

The CAB collaboratively developed a mission, values, goals, measurable outcomes, and accountability (CCPH principles 1 and 2).¹¹ Our mission was to use CBPR principles to develop an equitable partnership between academic partners and community members to address rising adolescent pregnancy rates. Our values were trust, transparency (e.g., allocation of resources), co-creation of knowledge with community (e.g.,

build on their respective strengths and resources), equitable power distribution (e.g., bilateral agreements), and combating structural oppression (e.g., make adaptation and training sessions accessible for all CAB members). Our project goals and measurable outcomes were to a) adapt an existing sexual health curriculum for mothers and their adolescent daughters and b) disseminate findings to the community, policy makers, and researchers. Community members reported that no comprehensive sexual and reproductive health education program had been implemented in their community, and expressed an urgent need for this information.

The partners sought to establish open communication, balance power, and share resources (CCPH principles 5 and 6).¹¹ CAB meetings centered around the adaptation of the *Mujer Saludable* curriculum, a sexual health education curriculum developed by UA-SIROW for Latina immigrant women living in Tucson, Arizona.¹⁰ The adaptation sessions consisted of an introductory session, followed by five adaptation and training sessions in which the academic partners delivered the existing curriculum to the other CAB members and requested community feedback after each session, a process that will be described in a forthcoming article.¹⁷ Curriculum adaptation and expansion integrated knowledge and action of mutual benefits of all project partners.¹⁰ To sustain the crucial involvement of the community members in the CAB and in the adaptation process, CAB meetings were held in the *colonia's* community center (e.g., at an agreed-upon time) to address potential barriers (e.g., time, transportation, childcare).¹⁷ The community center is located in the *colonia* and accessible by foot or car. The CAB members were welcome to bring their children to all meetings.

Table 2. Binational Research Partners

Partner	Role
UA-SIROW	Development of extramural funding application, IRB development
El COLEF	Revision of extramural funding application, IRB approval, leveraging of existing relationships including municipal administration, <i>promotora</i> recruitment
CCC for the Municipality of Nogales	Supervises the <i>promotoras de desarrollo social</i> (social development community health workers), identified and discussed resources and recruitment of <i>promotoras</i> for the CAB
Community members/ <i>promotoras</i>	Provided unique cultural, regional, and linguistic knowledge regarding the <i>colonia</i> , its strengths and challenges, appropriate approaches for working with community members, and other sociocultural and socioeconomic nuances specific to the <i>colonia</i>

Abbreviations: CAB = community advisory board; CCC = Coordinator of Community Centers; El COLEF = College of the Northern Border; IRB = institutional review board; UA-SIROW = University of Arizona's Southwest Institute for Research on Women.

Open communication was emphasized during all CAB meetings, whereby all members had equal opportunity to contribute their perspectives. Further, CAB members used Facebook, Whatsapp, and text messages to communicate scheduling, questions within the CAB, and responses. We sought to equalize power dynamics by organizing the physical space to sit in a circle, and by setting the expectation that all CAB members could take turns leading adaptation activities, especially if they had a particular interest in a certain topic (e.g., transmission and prevention of sexually transmitted infections). Further, all members were considered experts, acknowledging the expertise, knowledge, and unique contributions of each individual. The women and *promotoras* provided unique cultural, regional, and linguistic knowledge regarding the *colonia*, its strengths and challenges, appropriate approaches for working with community members, as well as ensuring that the curriculum reflected local jargon, and other sociocultural and socioeconomic nuances specific to the *colonia*. UA-SIROW and EL COLEF offered their expertise in education (e.g., pedagogy), and research and community involvement (e.g., CBPR).

The CAB prioritized sharing available resources. For example, El COLEF and UA-SIROW used all allowable grant funding to support the CAB meetings (e.g., the purchase of food and materials for the purposes of capacity building), commitment to academic dissemination of the project (e.g., publication), and sharing of material resources (e.g., *Mujer Saludable* curriculum). Community members offered their community credibility (e.g., as *promotoras de desarrollo social* serving the community), knowledge of the community (e.g., linguistic and cultural), and material resources (e.g., meeting space).

The CAB collaboratively developed a bilateral agreement of respect and expectations that was posted during all meetings to establish decision-making and conflict resolution processes, and ensure feedback among stakeholders (CCPH principles 7 and 8). The CAB took every feasible opportunity to direct the nature and content of the curriculum adaptation, and ensure feedback from all members. For example, at the end of each meeting, we took 10 minutes to reflect and share what worked and did not work, and identify areas for improvement. These activities improved team cohesion and trust, and signaled our intention to respect the autonomy of

community members and give them control over the direction and nature of the project.

Next Steps: Intervention and Dissemination

According to CCPH principle 9 to share the benefit of the Partnership's accomplishments, the CAB will deliver the adapted sexual health curriculum *Mujer Saludable-Promotora* with 10 mothers and their adolescent daughters (ages 12–21) living in the *colonia*, a process that will be described in a forthcoming manuscript. The *promotoras de desarrollo social* will use the curriculum and resources as another tool in their toolbox in their role as *promotoras comunitarias*. In the final phase of the project, the CAB will finalize the *Mujer Saludable-Promotora Implementation Manual* to distribute to local community centers, clinics, and schools in Nogales. The CAB also will collaboratively publish one policy brief in both English and Spanish to be delivered to Mexican health officials and the U.S.–Mexico Border Health Commission, which will provide data-driven implications for addressing reproductive health issues (e.g., adolescent pregnancy, access to resources, forms of gendered violence) on the U.S.–Mexico border.

LESSONS LEARNED

We learned a number of important lessons with regard to the infrastructure necessary to develop binational CBPR partnerships during the course of this project. We learned that local binational research networks, such as the Binational Collaboration for Healthy Communities in the Arizona–Sonora Border Region Network, play an essential role in the formation of binational CBPR research partnerships. We used the network to identify and access collaborators with experience conducting binational research, shared interests, and potential binational funding streams. Binational research initiatives are vulnerable to the broader political climate in which they exist. National discourse can result in strained binational relationships, stagnated border initiatives and limited border-specific funding. Thus, established binational networks harness sustainability and foster trusting, mutually beneficial relationships that preclude policies aimed to defund and eliminate binational border initiatives.

We learned the logistics of conducting binational border research, including travel time, border crossing, necessary documentation, and interactions with immigration enforcement.

Both El COLEF and UA-SIROW project partners traveled more than 80 miles to Nogales, between two countries and across two cities to arrive in Nogales, Mexico. Further, interactions with immigration and customs officials posed obstacles to U.S. partners on several occasions, including frequent stops and searches of state vehicles on both sides of the border owing to missing documentation on the state vehicles. Such experiences were mentally and physically exhausting after 4 hours of travel, preparation time, and 2-hour educational sessions. Being aware of the logistics of cross-border research is another piece of infrastructure that will facilitate binational CBPR partnerships.

We learned the importance of familiarizing ourselves with cross-border institutional processes when conducting binational research. For example, initially, El COLEF did not have an acting institutional review board (IRB) and agreed to defer to the UA-IRB Human Subject's Protection Program. The UA-IRB Human Subject's Protection Program requires an institutional agreement form stipulating that El COLEF would defer their IRB coverage to UA-IRB. However, upon further review, El COLEF administration, not including the co-principal investigator, decided to form its own ad hoc IRB to review the documents and sign the institutional agreement form because they required their own level of oversight of their institution's research agenda (El COLEF is in the process of formalizing its IRB). This process generated a learning curve for the project partners because both El COLEF and UA-SIROW were unfamiliar with these new institutional requirements and did not anticipate these delays. Further, at that time, the CCC had begun recruitment of the *promotoras de desarrollo social*, who were anxious to recruit community members for the CAB. UA-SIROW and El COLEF traveled monthly to meet with the CCC and the *promotoras de desarrollo social* to show continued commitment to the project, even though the CAB recruitment and subsequent curriculum adaptation could not yet be executed due to the IRB delay. This required time and resources that were previously unaccounted for in the project timeline and budget. Although it delayed the project by 5 months, it was an important milestone for the partners because it reinforced our commitment to the project.

We also learned to use CBPR principles to guide how we traversed differences in jargon, gender roles, societal norms

of sexual and reproductive health, and cultural taboos in the binational partnerships. For example, during the community informational session and subsequent CAB meetings, the local women expressed extreme concern about older men coercing young women in the *colonia*, which on many occasions had resulted in statutory rape and adolescent pregnancy. The CCC, who works in the *colonia* with the *promotoras*, helped to navigate cultural and community-specific sensitive topics and provide entre to the academic partners to engage in these topics. The academic partners were then able to support the rest of the CAB members to brainstorm prevention strategies for mothers and daughters, as well as investigate legal recourse for families. Essentially, the community partners functioned as the cultural/social brokers between the academic partners and the community, and the CAB members learned to trust each other and rely on the collective expertise of the group.

Another piece of infrastructure required for binational CBPR research is effective and equitable resource sharing in two separate national economies. In month 8 of our partnership, Mexico experienced a devaluation of the peso and an accompanying increase in the price of gas. This placed significant financial burdens on the community members (e.g., transportation) and El COLEF (e.g., transportation, purchase of materials). As such, UA-SIROW used its half of the PIMSA funding to supplement the purchase of materials, food, and provided money for gas to alleviate the transportation issues.

CONCLUSIONS

Binational CBPR-based partnerships can effectively engage multiple partners, capitalize on their unique expertise and abilities, and build capacity in border communities to address health inequities. Furthermore, such partnerships can lead to innovation and interventions that reflect the specific needs of the border region. We share our lessons learned in the development of infrastructure to form binational CBPR partnerships, including 1) the essential nature of local binational research networks to the formation of binational partnerships, 2) an awareness of the logistics of conducting binational border research, 3) familiarization with cross-border institutional processes, 4) how to use CBPR principles to guide social and cultural differences in binational CBPR projects, and 5) effective and equitable resource sharing in two national economies.

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