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Engaging Latinos in an Academic-Community Partnership in Montana through a Health Screening Event

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ABSTRACT

Background: Engaging minorities in research especially in Montana where Latinos make up a small percentage of the population can be a challenge. We describe an effort to recruit Latinos into a research study by hosting a health screening event.
Purpose: This event served as the first step in the creation of an academic-community partnership.
Methods: We formed an interdisciplinary research team and involved key community stakeholders in planning a health screening event. We provided lunch, flu vaccinations, and screening measures including blood pressure, body mass index, and diabetes status. We also asked for volunteers to sign up to participate in future focus groups.
Results: Thirty five people participated in the health screening event, and 29 people volunteered to engage in future research. The majority of participants reported not having health insurance or a regular medical provider, were overweight or obese, and did not have diabetes.
Discussion: Engaging the Latino community in research is important, and this paper describes the first step in the creation of an academic-community partnership.
Translation to Health Education Practice: Attention to community needs through active partnership and adherence to the responsibilities and competencies for health education specialists provides an example of a successful study that can be adapted to other populations.

A AJHE Self-Study quiz is online for this article via the SHAPE America Online Institute (SAOI) http://portal.shapeamerica.org/trn-Webinars

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Background

Despite the growth in the Latino population in the United States,[1] Latinos comprise a small minority of participants in federally funded health research.[2,3] The lack of effective recruitment of Latinos for participation in research may contribute to disparities in health outcomes for this population.[4,5] In a rural state, these disparities may be exacerbated due to the lower numbers of Latinos in the community. In Montana, Latinos comprise 4% of the population.[6] However, Montana is considered a "new growth community" for the Latino population – defined as an area where the population is below 5% but growing rapidly.[7] According to the Montana Department of Commerce, between 2010 and 2018, in Gallatin County, the Latino population grew from 2,499 to 4,491 residents, representing a growth rate of 179%.[8] Despite this growth, involving the Latino population in health research is challenging given the numbers.

Additional concerns for the Latino population come from living in a large, rural state where they are not only geographically isolated from others but are culturally isolated, as well.[9] Latinos in rural areas tend to experience more discrimination and decreased access to health care compared to their urban counterparts.[10,11] This leads to higher rates of chronic illness, including diabetes and hypertension, and given the elevated risk of diabetes in the Latino population in general,[12] health promotion interventions are necessary. In Montana, where very few resources exist in Spanish, these disparities are particularly acute. Academic-community partnerships are a way to conduct research that is community-focused, bringing the resources of the academic institution to solving problems identified in the community.[13] Their purpose is to bridge the gap between research and practice by bringing the evidence directly to the community and involving the community in its dissemination.[14] Moreover, these partnerships are an effective way to promote health in underserved communities.[15] The principles of community-based participatory research (CBPR) are often used to engage marginalized or vulnerable communities in the research process.[10,16] CBPR is an approach to research that combines the strengths of the research team and the

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Table 1. Using 9 principles of community-based participatory research[a] in SALUD.

CBPR[b] Principle	Development of Health Screening Event
1) Recognizes community as a unit of identity	• Recruited from Spanish-speaking, Latino community at local Church
2) Builds on community strengths and resources	• Promotion of event via existing networks • Used Spanish-speaking providers and students • Provided food from local community restaurant
3) Creates a partnership with community	• Used community volunteers in data collection • Goal of event was to foster partnership • Recruited for formation of community advisory board (Phase IV)
4) Foster co-learning opportunities	• Community learned about research team and project SALUD • Screening provided information for community health assessment and future interventions (Phase IV & V)
5) Knowledge generation and interventions benefit all parties	• Results shared with participants • Disseminated aggregate results with community (Phase IV) • Planning future interventions together (Phase IV)
6) Addresses concerns that have local relevance	• Screenings based on previous community survey • Exploration of community perception of health risks (Phase III)
7) Develops systems using an iterative process	• Interviewed community leaders for input of event activities
8) Disseminates results	• Shared results with community (Phase IV)
9) Displays long-term commitment to sustainability	• Continued work with community (Phase III) • Recruited community advisory board (Phase IV) • Applied for additional funds to advance project to Phase V

[a]Based on Israel et al. (2012)[17]
[b]CBPR = Community Based Participatory Research

community in a collaborative effort to implement a project. It engages multiple perspectives from the community to identify problems and propose solutions,[13] and relies on nine principles to enhance the community's capacity to participate in research.[17] We followed these principles throughout this project to ensure that we met a community need. We provide the details of how we integrated CBPR in Table 1. As a first step in forming an academic-community partnership with members of the Latino community, we formed a collaborative research team to investigate the concerns of the community and to engage a group of Latinos in the research process; we wanted to listen to the voice of the community. We titled our project SALUD: Scientists and Latinos United against Disparities. The goal of SALUD is to engage the Latino community in planning interventions designed to improve their health. The project has five phases, which are outlined in Table 2. This paper describes Phase II of SALUD: the implementation of a community health screening event using the principles of CBPR.

Table 2. Project SALUD phases.

Phase I:	Create partnership with University, Health Department, and Latino Community
Phase II:	Conduct Health Screening Event
Phase III:	Focus Groups and Interviews to engage community, learn about perceived disparities, generate ideas for interventions
Phase IV:	Share results with community Formalize community advisory board membership Plan future interventions
Phase V:	Community health workshops using *Promotores de Salud* model

Purpose

The purpose of the research was to assess the health of the Latino community in our area using a community health screening event. We identified three objectives for the health screening event: (1) provide basic health screenings to inform participants, (2) collect information as part of a community health assessment, and (3) introduce the research project to the community.

Health screenings are community events designed to identify health risk factors and provide resources to support health.[18] Screenings do not diagnose health problems but provide information to participants so they can follow up with their care providers.[19] For persons with chronic health conditions, they can serve as a point of care, particularly for vulnerable populations who may not be able to obtain these services elsewhere.[20] As a coordinated effort to improve public health, they also serve as an outreach tool.[20]

Methods

Research team

In Phase I of SALUD, we formed an interdisciplinary research team to guide the progression of this work, consisting of academic researchers from the Colleges of

Nursing and Engineering at the local University and representatives from the local health department engaged in working with the Latino population. The research team was convened to combine the strengths of the various investigators. Two of the five-person team are bicultural, and four members are bilingual. All members have experience working with the Latino population. To augment the team's work, two research assistants were hired – one, a bicultural and bilingual nursing student and the other a medical student interested in community-engaged research.

According to the principles of community-academic partnership research,[13] all members of the research team were involved in the research process: securing grant funding, designing the study, recruiting community partners to assist in the study implementation, implementing study protocols, and disseminating findings to the community.

Community partnerships

The research team partnered with local organizations to ensure the participation of the community and the success of the project. The first is a local Catholic church. In Montana, much of the Latino population identifies as Catholic, and in the area, the Catholic church is one of the only places offering Spanish-language services to the community. The church is seen as a safe place among the Catholic Latino community in the area. Its bilingual pastor offers Spanish-language Mass on the first Sunday of each month, and Spanish-speakers come from surrounding areas to attend the Mass, some traveling from 90 miles away. We chose to work with the church for recruitment because it was identified as the largest service-provider to Latinos in the community. We promoted the health screening fair through church announcements, flyers, and posted signs. The research team hosted the health fair after a Spanish-language Mass to engage the community directly after the service, with full support from the church priest.

The second community agency we worked with is a local grassroots group who advocates for the Spanish-speaking community. This group hosts events, trainings, and community development programs for the Latino community in the area and is a trusted source of information and resources for Latino immigrant families. The group supported this effort and advertised the health fair through Facebook messages and video on their Facebook page.

Health fair design

Following the Spanish-language Mass, potential participants were invited into the church hall for lunch provided by a local Mexican restaurant. The main idea for the lunch was to use food as a way to connect with the community[21]; to form a sense of fellowship between the researchers and the Latino community.

While the community ate lunch, the researchers introduced the study to potential participants. The research team was introduced, and the President of the University (herself a bicultural community member) spoke to give her support to the research project and to encourage the participation of the community in the academic-community partnership. Following lunch, children were invited to participate in kids' activities, hosted by pre-nursing students in an adjoining room. All persons who elected to participate in the study were entered into a raffle for one of four 50 USD credit cards.

Data collection

Interested participants checked in with volunteers who reviewed consent documents. After they signed informed consents, participants went to one of three stations staffed by senior nursing students under the supervision of one of the investigators. Nursing students collected all health data and recorded results on a carbon-copy card. After the measurements were taken, participants went to a station where a nursing student interpreted results for them in Spanish. Acopy of the results card was given to the participant as well as some information about local resources should the participant need to address any abnormal values. The participants were directed to the final table where they received a raffle ticket as an incentive for their time and were invited to sign up to participate in focus groups to be held in the future.

Screening measures

Undergraduate student nurses collected results of the screening measures. Students asked participants two questions about their access to care, and participants responded either yes or no to the following questions: Do you have health insurance? and Do you have a regular medical provider? A waist circumference was measured using a fabric measuring tape at the mid-abdominal line, according to standards of the World Health Organization (WHO).[22] We weighed participants without shoes and measured height with a stadiometer. These values were used to calculate body mass index (BMI), based on standard categories[23]: normal weight (BMI<25), overweight (BMI 25–30), or obese (BMI≥30). Seated blood pressure, after five minutes of rest, was measured on the left upper arm, using an automatic Omron HEM-RML31 blood pressure monitor. A standard adult cuff for arms 22–42 cm in diameter was used. Blood pressure was categorized based on a single reading taken on the left arm and categorized as

recommended by the American College of Cardiology[24]: normal blood pressure (<120/80), pre-hypertension (120–139/80-89), or hypertension (≥140/90). We measured hemoglobin A1c (HbA1c) using a Siemens DCA Vantage Analyzer (Siemens Healthcare Diagnostics Inc., Tarrytown, NY). Diabetes status was defined by standard categories of HbA1c[25]: no diabetes (HbA1c<5.7%), pre-diabetes (HbA1c 5.7–6.4%), or diabetes (HbA1c ≥6.5%). All equipment was calibrated per manufacturer guidelines by the research team prior to data collection. We calculated descriptive statistics on all screening measures.

Influenza vaccinations

As a service to the community, a public health nurse from the Health Department administered influenza vaccinations, free of charge to interested adults and children. Persons who elected to receive the flu vaccination were not required to enroll in the study, but the service was offered as a good-will gesture.

All study procedures were approved by the University's Institutional Review Board and conform to the principles of the Declaration of Helsinki.

Results

There were 110 persons who attended the health fair and who listened to the introduction of the research team and the research goals. Of those, 23 persons received an influenza vaccination, including 17 of whom did not have health insurance and likely would not have received a vaccination otherwise. A total of 35 (31.8%) persons participated in the health screening event. We did not collect information about refusal to participate, but most elected not to participate due to time constraints. A total of 29 of the 35 people (82.9%) signed up to participate in the next steps of the research project.

A majority of the participants reported not having health insurance (n = 28, 80%) nor a regular medical provider (n = 21, 60%). Over half of participants had elevated BMI and were overweight (n = 18, 51%) or obese (n = 8, 23%). Most had normal blood pressure of less than 140/90 mmHg (n = 26, 76%). Most also had A1c levels below 5.7%, which classified them as not having diabetes (n = 23, 70%). Full results of the health screening measures are shown in Table 3.

We also solicited community feedback on the event. All members of the community expressed an appreciation for the health screening activities. Participants commented that they appreciated the attention of the research team and the willingness of the researchers to work with them. The community leaders who participated in the planning of the event agreed that the project met our stated objectives.

Table 3. Sociodemographic factors and health indicators.

	N (%)
Health Insurance[a]	35 (100)
No	28 (80)
Yes	7 (20)
Regular Medical Provider[a]	35 (100)
No	21 (60)
Yes	14 (40)
BMI[b]	34 (100)
Underweight (<18.5)	1 (3)
Normal (18.5–24.9)	8 (23)
Overweight (25.0–29.9)	18 (51)
Obese (30.0+)	8 (23)
Blood Pressure (mg/dL)	34 (100)
<140/90 mg/dL	26 (76)
≥140/90 mg/dL	8 (24)
Diabetes (A1c)	33 (100)
No diabetes (<5.7%)	23 (70)
Prediabetes (5.7-<6.5%)	9 (27)
Diabetes (6.5%+)	1 (3)

[a]Based on self-report
[b]BMI calculated as kg/m^2

Discussion

We outline the first step in engaging the Latino community in a rural state in the research process through implementation of a health screening event. Our interdisciplinary research team, a collaborative effort between the University and the Health Department, successfully introduced the project to the community and began the process of recruiting a community advisory board to guide future research. We enlisted the support of the University's president, herself a member of the Latino community, and she introduced the project to the community. We also had the full participation of the Church's leadership, and the endorsement of the priest. At the event, we estimated health measures in a small sample of mostly uninsured Latino population.

While participation numbers were small, our team believes they reflect the health status of many Latinos in the community. In a previous effort to collect health information from the Latino community, the Health Department administered a Hispanic Community Health Survey (the Survey), which captured self-reported data from 78 respondents who identified as Hispanic or Latino. In that survey, 76% of respondents said they were either overweight or obese, which closely matches our estimates of 74%. Our estimates of diabetes were lower than those in the Survey. They found that 18% had diabetes and 11% had pre-diabetes. We found 3% had diabetes and 27% had pre-diabetes. Both of these estimates are lower than the national estimates of Latinos with diabetes (23%) and pre-diabetes (32%).[26]

Our estimates are below national estimates on hypertension among Latinos. Nationally, 36% of Latinos have blood pressures higher than 140 mm Hb systolic (compared to 46% of non-Hispanic whites).[27] In our sample, we found 26% had systolic blood pressure readings of 140 mm Hg or greater. Our estimates are also lower than national numbers for BMI calculations, however. We estimated that 51% of the sample was overweight and 23% was obese. That represents a total of 74% overweight or obese, compared to the national estimate of 80% of Latinos.[28]

The most striking difference between our study and the findings from the Survey is the number of people who reported having health insurance coverage. In the Survey, 52% said they had health insurance. This number is higher than the national estimates of insurance coverage for Latinos at 49%.[29] However, in our study, only 20% reported having health insurance. This is a marked difference and may reflect the sampling frame differences of the two studies – the Survey was conducted by the Health Department via recruitment at a federally qualified health center (FQHC) and may capture persons who are more established in the community or who access safety net services regularly. Our sample consisted of persons who were not necessarily connected to community resources and who may have migrated to the area more recently. Another difference between the two studies is that 80% of respondents to the Survey said they had at least one regular medical provider while only 40% of our participants reported a regular health-care provider. It is perhaps surprising that more people reported having a health provider than having health insurance, because health insurance is associated with a regular medical provider.[30] However, the presence of the well-known FQHC, which serves the uninsured Spanish-speaking population in our community, could explain this difference.

The results of our study are an interesting snapshot into the health status of our participants, though our small sample size limits the inferences we can make from the data. Despite that, we were able to build momentum for future research endeavors with the community, through the 29 people who signed up to participate in focus groups after the health fair. The goal of our event was to introduce an academic-community partnership to key stakeholders to incorporate their diverse skills and interests into the research process as a way to foster the success of community-based interventions.[15] We used this health event as our first step in the process of building the collaboration with the community, and believe our efforts were successful. In addition, we used this health fair as a snapshot community health assessment[31] and a starting point for our future efforts.

The study described here has some limitations. The first is the sampling method. We used a convenience sample from the Catholic church, which limited the people we were able to recruit and resulted in a sample who mostly identified with one religious tradition. While the majority of Latinos in the US identify as Catholic,[32,33] we recognize our potential bias. Future plans include broadening recruitment efforts to other known groups of Latinos in the area in Phase IV and V, but our limited funding was used to pilot test methods in this round. Another limitation is the lack of data collected on age and sex. In an attempt to protect participants' identity as much as possible, this information was not collected. As this was a pilot study, data collection protocols will be amended for future iterations of this project.

Phase III of SALUD involves focus groups with interested participants to further investigate health disparities in the community from the community members themselves. Engaging immigrant communities in the research process is most successful when the research directly addresses their needs,[34] and we plan to use focus groups as a way to capture the concerns of this community. Additionally, we plan to recruit a community advisory board from these focus group conversations to select research questions and plan potential future interventions.

Translation to Health Education Practice

This study has several implications for health educators. First, interventions that involve the community often have greater success than those that come from the providers.[35] The principles of CBPR ensure that the community is an active partner in identifying their own needs.[17] We were able to leverage connections with leaders in the community to target screenings they saw as valuable. Additionally, we had robust attendance at the event (though not large numbers of participants in the study). We believe this was accomplished by using community networks to promote the event and by holding it at a common, well-known location at a convenient time. This also allowed us to deliver culturally appropriate care because of the involvement of the community.[36] The process of CBPR takes time and a demonstrated commitment to the community. Health educators must keep this in mind when planning for screening events.

Second, an important step that helped us move our project into subsequent phases is the dissemination of our findings to the community itself. We invited participants to a presentation of what we learned from them in our research. This demonstrates our commitment to their health and shows that we are invested in a long-term relationship. Vulnerable populations may feel that

Table 4. Health education competencies met by health screening event (areas I–IV).

Area and Competencies[a]	Health Screening Event
Area I. Assessment	
1.1 Planning	Created academic-community partnership Identified Latino population from Church
1.2 Data Gathering	Used existing community resources to (a) Plan event (b) Promote and recruit participants (c) Collect data Evaluate event
1.3 Analysis	Presented data to community for confirmation and further planning
Area II. Planning	
2.1 Engage Partners	Team interviewed community leaders Community leaders assisted in planning and implementation of event
2.2 Define Outcomes	Outcomes developed: (1) Provide health screening to inform participants of basic health measures (2) Collect information as part of community health assessment (3) Introduce research project to community
2.3 Define Interventions	Planned event with input from community leaders
Area III. Implementation	
3.1 Coordinate Delivery of Intervention	Developed protocols Obtained instruments and designed event
3.2 Deliver Intervention	Using community space, health screening event conducted
Area IV. Evaluation and Research	
4.1 Design Evaluation	Calibrated instruments Conducted pilot testing with data collectors
4.2 Design Research	IRB approval obtained
4.3 Data Collection	Trained data collectors
4.4 Interpret Data	Analyzed and synthesized data
4.5 Use Findings	Disseminated findings to community

[a]Areas of responsibility and competencies of health education specialists[1]

researchers use them for data collection with no follow-up or resulting intervention. By inviting community members to hear about our results, we included them in the process of designing future interventions and solidified the relationship we strive to maintain.

Our work highlights some of the Responsibilities and Competencies of Health Education Specialists.[37] We utilized Areas I–IV in planning, implementing, and analyzing our findings. Assessment of community need (Area I) was accomplished in partnership with community leaders and the research team (1.1.5 Recruit and/or engage priority populations, partners, and stakeholders). We used community resources in planning and promoting the event (1.2.2 Establish collaborative relationships that facilitate access to data). And we presented our findings to the community (1.4.5 Report assessment findings). We defined our outcomes and planned the health screening event using Area II (Planning). Specifically, we engaged community partners (2.1.2 Facilitate collaborative efforts among priority populations, partners, and stakeholders), defined our outcomes (2.2.1 Identify desired outcomes), and planned our interventions (2.3.4 Adopt, adapt, and/or develop tailored interventions for priority populations to achieve desired outcomes). Area III (Implementation) was accomplished by designing protocols (3.1.4 Establish training protocol) for the event and then training our volunteers in data collection (3.1.5 Train staff and volunteers to ensure fidelity). We also used validated instruments which were carefully calibrated to ensure accurate results (3.3.4 Ensure plan is implemented with fidelity). Finally, we used Area IV (Evaluation and Research) to determine whether or not we met our objectives (4.3.6 Analyze data) and in sharing results with the community (4.5.2 Disseminate findings). Details are provided in Table 4.

Our work highlights a successful effort to create an academic-community partnership with an overlooked minority population in Montana. This first step showcases the strength of the interdisciplinary research team and the full support of the research partners, including the University, the church leadership, and the health department. Moreover, we were able to engage undergraduate nursing students in the research process while creating enthusiasm among members of the community to participate in SALUD.

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Disclosure statement

The authors declare that there is no conflict of interest.

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