

Field Action Report

Environmental Health Training of Promotoras in Colonias Along the Texas-Mexico Border.

Environmental Health Training of *Promotoras* in *Colonias* Along the Texas-Mexico Border

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Poverty, overpopulation, and a lack of environmental controls have combined with cultural and linguistic division to produce a looming public health threat in unincorporated communities on the US-Mexico border. These rapidly multiplying *colonias*, from a Spanish term for neighborhoods, are settlements of varying size located along the border. Along the American side of the Texas-Mexico border alone, there are approximately 1800 *colonias*—the largest number of any border state—most of which lack basic water and sewer systems, paved roads, and safe and sanitary housing.

Promotoras, from a Spanish term for lay community educators, are community leaders who live in the *colonias* and build important bridges between residents and the federal and state bureaucracies. These women have been trained to introduce their neighbors to state “systems” of government, education, and medical and social services that otherwise may lie out of reach. *Promotoras* are able to “translate” this training into culturally meaningful instruction that empowers community self-development. When neighbors teach neighbors, the message is received with greater trust and readiness to act.

The Community Outreach and Education Program (COEP) of the Center for Environmental and Rural Health (CERH) at Texas A&M University is a primarily educational program focused on *colonias* along the Texas-Mexico border. The Texas borderlands have experienced an explosion of industrial and population growth. The number of residents in *colonias* on the US side of the Texas border exceeds 500 000, 98% of whom are Hispanics. Sixty-five percent of all *colonia* residents, and 85% of those younger than 18 years, were born in the United States.

Although this growth has created opportunities, it has also produced environmental health threats and social challenges. *Colonias* have relatively high numbers of persons per household (5.5 vs 2.7 statewide) and relatively high poverty rates (35.8% vs 18.1% statewide). These geographic and sociodemographic factors have raised health concerns in this region.

The primary goal of the COEP is to educate rural communities in Texas in order to reduce environmental exposures associated with human illness and to provide target communities with scientifically sound information that they can use in solving environmental issues. Health educational resources are limited in *colonias*, but one of their best resources is the *promotoras*: community leaders who actually live in the *colonias* and know most of the residents they educate. *Promotoras* meet regularly with res-

idents in their neighborhoods to encourage participation in education, health, job training, human services, housing, and youth and elderly programs delivered in the community resource centers.

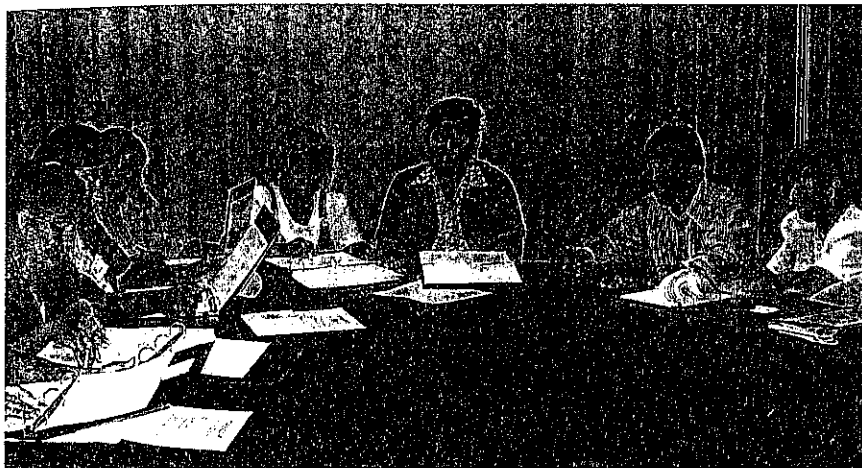
Promotora-based education programs empower local residents to become involved with, and stay connected to, activities outside the *colonia*. In this way, *promotoras* strengthen the social and economic infrastructure of their own communities. Environmental health training for *promotoras* is offered in English and Spanish and includes general principles of toxicology and environmental health, as well as topics related to nutrition, pesticides, occupational safety, and genetic susceptibility to birth defects and cancer. *Promotora* training is delivered at *colonia* community resource centers on site or through video technology. Equipped with this knowledge of environmental and rural health, *promotoras* can provide culturally relevant environmental health education to *colonia* residents.

The Promotoras Project

In 1999, CERH teamed with the Center for Housing and Urban Development and the South Texas *Promotora* Association to develop and implement a research, education, and outreach pilot program of sustainable environmental health in the *colonias*. A cornerstone of this program was an envi-

Key Findings

- The National Institute of Environmental Health Sciences' Center for Environmental and Rural Health (CERH) at Texas A&M University collaborated with the South Texas *Promotora* Association and the Center for Housing and Urban Development to develop an environmental health curriculum for *promotoras* living and working in *colonias* just inside the Texas-Mexico border.
- This “train-the-trainer” program is intended to expand the CERH's community outreach efforts in the Texas borderlands and to deliver a self-sustaining message of environmental disease prevention, behavior modification, and health promotion among the *colonias*.
- *Promotoras* function as teachers, peer counselors, and advocates of grassroots change in their own communities. They are effective educators, because they relate better to their peers than do outsiders and provide culturally sensitive instruction that facilitates community self-development.



Training of *promotoras* at the Cameron Park Community Resource Center, Cameron Park, Tex. From left to right: Maria Rebollan, *promotora*; Adelina Sanchez, *promotora*; Graciela Zamorano, *promotora*; Gregoria Villegas, *promotora*; Teresa Serma, *promotora*; Kenneth S. Ramos, instructor; Irma N. Ramos, instructor and course director.

environmental health curriculum rooted in a "train-the-trainer" model of education and outreach. It was designed to teach *promotoras* working in *colonias* about the environment and about environmental health and to prepare them to teach their neighbors what they have learned.

The bilingual curriculum was developed by COEP staff in collaboration with 9 CERH instructors and experts, and its content is based on data from the Texas Department of Health and the Centers for Disease Control and Prevention regarding environmental health conditions along the US-Mexico border. In addition, the curriculum content was based on a preintervention assessment of *colonia* residents' health concerns. Instruction was set at the middle school level to facilitate the dissemination of scientific and medical principles to individuals with varying educational backgrounds. *Promotora* training was delivered face-to-face at *colonia* community resource centers and, in some cases, via the Telecommunication Transmission Video Network.

The pilot project was implemented in Cameron Park and Progreso, *colonias* in the Lower Rio Grande Valley only a stone's throw from the Texas-Mexico border. These communities were chosen for population size and because the state government is concerned about the birth defects, neurologic deficits, cancer, cardiovascular morbidity, and respiratory problems of border residents. Cameron Park is one of the largest *colonias* in the Lower Rio Grande Valley. Both *colonias*' proximity to Mexico makes them ideal

locations for testing solutions to social problems that straddle the border.

The pilot education and outreach project was divided into 4 phases. Phase 1 involved completion of a preintervention assessment to learn about the health concerns of *colonia* residents, evaluate the level of environmental literacy in the *colonias*, and identify the socioeconomic factors that may have an impact on the health outcomes of *colonia* residents. During this phase, *promotoras* received research and interviewing training and conducted the preintervention assessment interviews of *colonia* residents.

The second phase involved teaching *promotoras* about environmental health. Because behavior modification is essential to minimizing exposure to environmental hazards, each teaching module concluded with safety tips for each topic. These tips were the "take-home" messages of each session. Instructors' phone numbers for follow-up or ongoing consultations and rosters of class attendance were distributed to encourage a continued exchange of information among course participants. At the completion of each session, participants were tested on knowledge acquisition, retention, and assimilation of course information. In addition, *promotoras* were asked to evaluate the quality of instruction, the quality of training materials and facilities, and the potential for future replication of the training session.

Now armed with knowledge about improving environmental health, *promotoras* have moved on to phase 3, in which they conduct educational sessions with their neigh-

bors throughout the community, providing culturally relevant environmental health education through home-based education in Spanish and group sessions at the Community Resource Centers. Finally, in phase 4, *promotoras* will conduct a posteducation and outreach assessment to evaluate the effectiveness of the intervention.

Discussion and Evaluation

The evolution of this COEP project involved identifying target communities and their environmental concerns, building credibility with target communities, creating and enhancing linkages with regional organizations serving rural communities, and designing and implementing mechanisms to evaluate the effectiveness of COEP efforts. Pre- and posttesting of *promotoras* at each presentation was incorporated to assess the short-term effectiveness of the instruction and the quality of presentation. The feedback has been invaluable and has led to significant adjustments. At the completion of the fourth phase of the project in 2001, a comprehensive evaluation will be undertaken.

On the basis of this evaluation, an intervention-training manual will be developed that is grounded in our research findings, experiences, and workable interventions strategies we have devised. It will include the environmental health curriculum, methods used in training *promotoras*, tips on preventing and intervening on environmentally related diseases, practical models for evaluation and feedback, and pedagogical recommendations on how best to coordinate and implement all aspects of the program. CERH supplemental funding from the National Institute of Environmental Health Sciences (NIEHS) provided funding for this pilot initiative, covering permanent costs, costs of reproduction, data analysis, and travel.

Next Steps

The *promotoras* initiative was designed to implement culturally relevant activities aimed at enhancing environmental health prevention and intervention in the Hispanic *colonias* of Cameron Park and Progreso. The preintervention survey helped define how malnutrition, health status, and socioeconomic status, in combination with smoking, alcohol consumption, and drug use, may influence the biological effects of potentially hazardous chemicals.

The greatest strength of the program, however, has been the direct participation of

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Potentially hazardous environmental conditions in the *colonia* of Cameron Park, Tex.

the *colonia* residents and *promotoras*. Acting as researchers and educators, *promotoras* helped refine the design and implementation of the training program. They were cen-

tral in the development of research questions and will be integrated into the interpretation, application, and dissemination of research results and the training manual as we con-

tinue to expand this research, education, and outreach program to *colonias* all along the Texas–Mexico border.

This ongoing work in the *colonias* is significant in still other ways. It promotes strong partnerships between and among *colonia* residents, community-based organizations, clinicians, public health professionals, and researchers. The legacy of these partnerships will be improved disease prevention, behavior modifications, and health promotion related to the environment in this region of Texas. The train-the-trainer model will help translate old and new scientific findings into knowledge that can be adopted by all community residents. □

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This report was accepted January 11, 2001.

Acknowledgments

This work was supported by NIEHS grant P30 ES09106.

We would like to express our appreciation to all of the instructors and to Mr Kermit Black, Mr Larry Rincones, and Ms Norma Viega for their continued support of this project.

References

1. Schmidt CW. Bordering on environmental disaster. *Environ Health Perspect*. 2000;108:A308–A315.
2. Rogers GO. *Cinco Colonia Areas: Baseline Conditions in the Lower Rio Grande Valley*. College Station: Center for Housing and Urban Development, Texas A&M University; 1993.
3. Casso RR. The border health issues in the age of NAFTA. Paper presented at: Opening Plenary Session of the 3rd UT System Texas–Mexico Border Health Symposium; Austin, Tex; October 20–22, 1994.

Resources

Educational materials on topics related to environmental health curriculum are available upon request from the COEP office of the CERH (Texas A&M University, 4455 TAMU, College Station, TX 77843-4455). Some of these materials are also available on our Web site at www.cerh.tamu.edu.