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1. Development of an Environmental/Epidemiological Database in Texas- Mexico Border
2. Texas A&M Health Sciences Center, School of Rural Public Health

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3. Brief statement of how project meets the aforementioned specific objective.

The project described will meet Goal 4: Improve Environmental Health; Objective: Develop a study to identify the main environmental health hazards in the TX/Coah/NL/Tamps.

The U.S. Hispanic population is now the nation's largest minority group. According to the U.S. Census Bureau (2000), statistics indicate that in the U.S. border counties, 25%-30% of the population is uninsured and the average yearly income is \$14,560.

The environmental health hazards facing the US-Texas Border States are unknown due to the lack of basic information that could document possible links between environmental hazards and chronic disease. America is facing an environmental and health gap. This is a gap in critical knowledge that compromises our national efforts to reduce or eliminate diseases that might be prevented by better managing or preventing environmental pollutants. Due to the health disparities faces by the US-Mexico Border is imperative to identify databases from both countries that could provide the information public health professionals need to reduce and prevent chronic health problems. This is especially true for chronic diseases and conditions, such as birth defects, asthma and childhood cancer, which strike hundreds of thousands of American families each and every year. The US-Mexico Border is known for the high number of industries "maquiladoras" that discharge in the Grande River, large amount of pesticides used in agricultural fields and due to the increase in vehicular traffic high air pollution.

4. Purpose and goal of the project

The overall goal of this project is to identify the sources of environmental health hazards, community vulnerabilities, assets and existing strengths in order to implement a bi-national database on epidemiological data related to these environmental health hazards.

This will be accomplished by:

Objective 1: Review scientific literature regarding National Baseline Tracking of Diseases and Exposures and other relevant literature.

Objective 2: Building a partnership with different stakeholders (local, state and national agencies) in the US-Texas Border community.

Objective 3: Identify environmental health hazards indicators that can have an impact in the bi-national communities and if possible use national indicators already identified by EPA and CDC.

Objective 4: Develop a survey to apply to local bi-national public and environmental health professionals to identify US/Texas-Mexico Border indicators.

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Objective 5: Gather all information regarding environmental data collected in TX/Coahuila/Nuevo Leon/Tamaulipas.

Objective 6: Develop a repository to standardize all databases identified and collected from both countries in order to identify common health and environmental indicators.

It is unknown the databases that Mexico/Border States collect, therefore; the first step will be to contact local, state and federal authorities in order to obtain environmental and health information. Other source of information will be to identify partners that could be contacted as other possible resource since they have a closer relationship with Mexican authorities. The last option will be to get information from websites from local, state and national agencies. In the case of US we have identified key resources among the Department of Health and Human Services, the Environmental Protection Agency, Texas Commission of Environmental Quality and other potential sources as well as Public Health Regions.

The project will be accomplished in two phases: The first phase will be completed in this grant cycle with the objectives mentioned above. The second phase will be submitted in the next year cycle and its purpose will be to develop a web portal with the capability to establish a link between environmental exposures and health indicators from both countries.

5. Benefits to the public or environment

Without comprehensive environmental health tracking, policymakers and public health practitioners lack information that is critical to establishing sound environmental health priorities. In addition, the public lack knowledge of important information about environmental hazards, exposure levels and health outcomes in their communities—information they want and have every reason to expect. At the same time border communities demand a right to know about these hazards, they also expect government to gather health information in a way that protects citizens' privacy.

Table 1. Measurable environmental results (outcomes and outputs)

| Activities | Env. Outputs | Anticipated Environmental Outcomes | |
|---|--|--|--|
| | | Intermediate Action | Long-term Health |
| Objective 1: Review scientific literature regarding National Baseline Tracking of Diseases and Exposures and other relevant information. | | | |
| Review the National Baseline Tracking Disease and Exposures and other relevant literature. | Identify government and scientific publications regarding public health and environmental tracking. | 50 Scientific Publications and 4 governmental publications related to the same topic. | Become familiar with the national work CDC and EPA had already developed in US. |
| Objective 2: Building a partnership with different stakeholders (local, state and national agencies) in the US-Texas Border community. | | | |
| Identify local, state and national agencies that have databases related to environmental hazards and health in Texas-Mexico Border. | Persons representing those agencies will be invited to meet to discuss the data they collect and format they use. | Obtain as many bi-national databases as possible. | Compile a large number of databases that will be the foundation for the repository. |
| Recruit/coordinate meeting with partners to review, identify and analyze the most relevant indicators in US applicable to the Border. | Persons representing those agencies will be invited to meet to review the indicators already identified by CDC/EPA for US. | Identify indicators relevant to the border that can be used for both sides. | Ability to link environmental and health indicators with the data gathered from both sides of the border. |
| Objective 3: Identify environmental health hazards indicators that can have an impact in the bi-national communities and if possible use national indicators already identified by EPA and CDC. | | | |
| Identify indicators listed in the PEW Publication, EPA Environmental Tracking and other sources that could be shared by both borders. | List the most relevant indicators to US-Texas/Mexico Border. | Identify at least 20 indicators that are common to US and Mexico border. | |
| Objective 4: Develop a survey to apply to local bi-national public and environmental health professionals to identify US/Texas-Mexico Border indicators. | | | |
| Develop a survey to be applied to health professional with a series of questions with the goal to rank environmental and health priorities in both sides of the border. | Identify a priority ranking based on the evidence-base from environmental and public base professionals from both sides of the border. | Apply the survey to at least 10 environmental and public health professionals in both sides of the border. | The survey will create awareness of the possible indicators in both countries that can be linked to identify common environmental hazardous exposures and health outcomes. |
| Objective 4: Gather all information regarding environmental issues in TX/Coahuila/Nuevo Leon/Tamaulipas | | | |
| Identification of data will be done through different routes such as contacting directly the agencies from specific data, specific persons who the researchers have had | Several local, state and national agencies will be contacted to gather information needed. | At least five agencies will be contacted in each side of the border to gather data. | The data obtained will provide valuable information regarding environmental and health outcomes. |

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|--|---|---|--|
| previous collaboration or through web posts in their webpage. | | | |
| Objective 5: Develop a repository to standardize all databases identified and collected from both countries in order to identify common health and environmental indicators. | | | |
| Develop a standardized database framework to upload all the information obtained from our partners. | It is expected that the databases will be obtained in different formats; however one format will unify the data upload. | One format will be used to standardize to database we will develop with the databases gathered. | The repository developed will help to have in one place the bi-national environmental and health information obtained. |

- **Replicability in others parts of the Border Region.**

This project will be focused on Texas State but will be easily replicated all over the border. All the formats developed for the standardization of collection of data will be available to BECC and EPA so every person who is interested can implement it at their community. However, it is important to mention that the only limitation might be the data obtained from their respective State.

Hidalgo County will take record of all activities performed to complete the goals, objectives and outcomes of the proposal and would be easily shared with any other jurisdiction interested in replicating the project.

- **Long-term self-sustainability.**

The project will be easily sustainable once the flow of information and the platform for the presentation of information is established. However, the researchers will be applying to the next BECC cycle to do the second phase of this proposal and will look for other venues to get funding to keep the database organized and actual.

Hidalgo County is committed to improving environmental public health for the residents of the border region. The study is imperative in order to learn how to provide the best and most useful services possible for those that are served. Hidalgo County will participate in future proposals to implement the actual surveillance of the environmental health hazards that would be identified via this study, and incorporate the identified hazards into existing Hidalgo County surveillance efforts.

- **Leveraging of resources (e.g. in-kind resources, committed partnerships, applicants funds and other sources of funds).**

Dr. Carrillo Zuniga will cost share her time at 5%.

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Brenda Salazar will cost share her time at 10%.

Belinda Medrano will cost share her time at 5%.

Hidalgo County will not charge for indirect costs (usually at 28%) and will absorb all indirect costs.

Hidalgo County will utilize all partnerships, networking capabilities and working relationships already in existence (in addition to building new partnerships) to maximize all efforts to identify the major environmental health hazards along the US/Mexico Border in Hidalgo County.

- A project timeline (See Below).

Timeline

| | | 2011 | 2012 | | |
|--|--|-----------|-----------|-----------|-----------|
| Activities and Milestones | Products: | Q4 | Q1 | Q2 | Q3 |
| Review the National Baseline Tracking of Diseases and Exposures to familiarize with the work already done by EPA and CDC and other scientific literature. (Obj. 1, 3) | - List priorities mentioned in the document | X | | | |
| Meet with representatives of Hidalgo Health County and Human Services, Dept. of Texas Agriculture, TCEQ to begin identifying environmental data in Hidalgo County. (Obj. 2, 4) | -Log of Participants. -Prepare minutes regarding discussion in the meeting to summarize environmental problems identified as well as beginning of setting priorities. | X | X | X | |
| Identify indicators already developed by CDC and EPA that can be used in the US/Texas-Mexico Border. (Obj. 2) | -List indicators already identified. -Prepare minutes | X | X | X | |
| Develop a survey to apply to local bi-national public and environmental health professionals to identify US/Texas-Mexico Border indicators. (Obj. 4) | -List of persons participating -Results of the survey | X | | | |
| Develop a repository to standardize all databases identified and collected from both countries in order to identify common health and environmental indicators. (Obj. 3, 5) | -Log of programs with contact information. -Meeting minutes | | | X | X |
| Look for external funding for sustainability and second phase of the project. | | | | X | X |
| Dissemination and Evaluation of the Project | -Presentations at local and national meetings. | | | | X |
| Final Report | -Report | | | | X |

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- **Qualifications and expertise of staff implementing the project.**

Genny Carrillo Zuniga, MD, MPH, Sc.D., Assistant Professor of Environmental and Occupational Health at the School of Rural Public Health, Texas A&M University System Health Science Center. Dr. Carrillo Zuniga has over 17 years experience in environmental health sciences. She has worked previously in border health issues and her projects address the exposure to pesticides, prevention and their proper storage in homes at the Texas-Mexico border. She is the principal investigator and she will oversee the project and

Brenda Salazar, **Public Health Technician III**, Hidalgo County Health & Human Services. Ms. Salazar has worked for Hidalgo County for 5 years in the areas of public health and emergency management. Brenda is involved with grant writing, program development and implementation, policy analysis and community education. Brenda will serve as point of contact and lead for the Hidalgo County team.

Belinda Medrano, **M.P.H., Epidemiologist**, Hidalgo County Health & Human Services will participate in survey composition and all activities associated with survey and identifying local databases on both sides of the border of Hidalgo County.

Clerk I TBD, Hidalgo County Health & Human Services. This position will assist with all clerical work associated with the study. Will assist with survey execution and completion by participating agencies, educational materials development for participating agencies, correspondence with participating agencies and organization of collected data.

Graduate Assistant, TBD. This person will help with gathering information and contacting local and bi-national contacts to obtain the information needed. She will also help planning meetings with stakeholders and assist developing the repository for collections of data.

6. **Estimated project budget (e.g. salaries, breakdown of sub-contract cost, travel, equipment, supplies, leveraged resources, etc.). Budget and cost amounts must be submitted in US dollars. Provide estimated funds needed (i.e. requested Border 2012 funds, leveraging funds, and total amount.) Projects that leverage resources will improve their scoring under the evaluation criteria of this solicitation.**

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|--|-------------|
| Part-time Clerk (20 hours per week @ \$9.50/hr for 15 months = 1300 hrs) | \$12,350 |
| FICA | \$944.78 |
| Unemployment | \$61.75 |
| Worker's Comp | \$163.02 |
| Total: | \$13,519.55 |

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Employee out of state travel (2 employees) for CDC Environmental Public Health
Tracking Conference Sept 2012

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|--------------|--------|
| Registration | 600 |
| Flight | 1500 |
| Rooms | 900 |
| Rental car | 200 |
| Gas | 60 |
| Meals | 240 |
| Total: | \$3500 |

Rental for Stakeholder forum (50 people) \$1500

Educational items:

(50) 1GB USB Flash Drives with a project/reporting reminder message printed on them,
as well as all documents/information associated with the study ~ \$15.00 each \$750
includes estimated setup, shipping and freight

(50) Executive padfolios for each stakeholder. Will contain the hard copy survey, and a
pad for writing notes during the forum. Will have an imprint on the cover with a
project/reporting reminder message. ~\$30.00 each \$1500 includes estimated setup
shipping and freight.

International calling: \$1000

Printing and binding for surveys, workbooks and presentation binders for each
stakeholder: \$2,500

Materials and supplies: \$700

Total budget for Hidalgo County: \$24,969.55