

**DEVELOPMENT OF PARTNERSHIPS TO IDENTIFY
ENVIRONMENTAL
HEALTH INDICATORS IN TEXAS-MEXICO BORDER STATES**

**ENVIRONMENTAL PUBLIC HEALTH TRACKING
ASTHO FELLOWSHIP REPORT**

Submitted by

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II. INTRODUCTION

In 2009, the Centers for Disease Control and Prevention (CDC) initiated a National Environmental Public Health Network with the purpose of enhancing capacity of state and territorial health agencies through the establishment of a nationwide web-based secure network of standardized electronic and environmental data. To this end, CDC provided funding to twenty-two states to implement related activities. Texas is not among the funded states. In order to enhance this action, the Association of State and Territorial Health Officials (ASTHO) launched a pilot, the Environmental Public Health Tracking: State-to-State Peer Fellowship Program, making limited funding available to non-CDC funded states through competitive fellowship awards.

III. Background

On December 2012, and as a bona fide through the TX Department of State Health Services, the Texas A&M Health Science Center, School of Rural Public Health, was awarded a fellowship by the Association of State and Territorial Health Officials (ASTHO). The purpose of the project was to develop an asthma prototype of currently available data developed for Hidalgo County, an area with one of the highest rates of asthma-related hospitalizations in Texas. [1]

The purpose of the ASTHO Tracking Fellows Program was to:

- Help non-funded state and territorial health agencies gain first-hand experience from their peers in states that are funded for tracking activities.
- Strengthen peer networks across state and territorial health agencies, and
- Explore ways to integrate environmental epidemiology/data collection activities of non-tracking funded states into the National Tracking Network.

Several activities were planned for the period starting January 1 to August 31, 2013, and are as follows:

1. Review the National Baseline Tracking of Diseases and Exposures to become familiar with work already done by EPA and CDC, including review of other scientific literature. An extensive review was done of the National Baseline Tracking of Diseases and Exposures and other scientific literature.[2]
2. Meet with local and regional stakeholders to develop an understanding of what is being done within the region and nationally to relate what those experiences mean for Hidalgo County.

The PI held a series of meetings related to this project. On January 15, 2013, the PI met in Austin with Dr. RJ Dutton, Director of the US-Mexico Commission at the TX DSHS, and a member of his staff, Dr. Allison Banniki. Dr. Dutton informed the PI that ten years ago his Commission tried to develop a database such as the one this project intends to create and that although the idea was kept afloat for some time, related communication difficulties in obtaining the data from Mexico, along with the different indicators that Mexico uses, made it difficult to make comparisons with the US data.

The PI also communicated with the Texas Department of Epidemiology to ask for data information. However, discussion of a data share agreement was conferred only with the coordinator of the Texas Asthma Control Program (TACP), located within the Texas Department of State Health Services (DSHS). The coordinator indicated that since TAMHSC-SRPH is already a contractor there would not be a need for such an agreement, stating that as part of their contract with TACP the asthma epidemiologist would provide any available information. However, if a grant proposal is submitted to CDC for additional funding for continuation of this fellowship project, a more formal data share agreement would be needed in order to gather data from other DSHS departments.

3. Meet with representatives of Texas (and if possible include Mexican partners via teleconferencing) to begin identifying existing environmental and health data.

As previously mentioned, the PI met with some key partners from DSHS to discuss the planned asthma prototype and the possibility of initiating a collaboration for the development of a grant proposal should the CDC announce requests for proposals for Environmental Public Health Tracking Programs. Discussions are also underway with the Border Environment Cooperation Commission (BECC) headquartered in Ciudad Juarez, Chihuahua, Mexico. The commission is a bi-national organization which was created in 1994 by the United States and Mexico under a side-agreement to the North American Free Trade Agreement (NAFTA) and the Pan American Health Organization, with the purpose of collaborating with other international agencies in order to develop a program such as the National Environmental Public Health Tracking Network.

In addition, the PI contacted Dr. Leticia Doria, Epidemiologist from Jurisdicción Sanitaria, No. IV, in Reynosa, Tamaulipas. Dr. Doria indicated that the data published in the “Boletín Epidemiológico” found at: <http://salud.tamaulipas.gob.mx/boletin-epidemiologico-2013/> is the most recent health related information available. She further suggested the PI go to the website and look for the identified diseases and the year on which the repository will be focused. Accordingly, the PI is reviewing the identified diseases found in the Boletín Epidemiológico.

Several conference calls have been held with Dr. Dora Elia Cortes from the University of Nuevo Leon in order to gather information about identified health and environment indicators from Mexico. Dr. Esteban Picazzo, a collaborator with Dr. Cortes, sent the PI several links and other information related to diabetes and “Inventario de Emisiones Gastos de Efectos Invernadero Tamaulipas”, which is a document produced by BECC. This information is also under review by the PI.

Dr. Carrillo Zuniga continues to work closely with the Pan American Health Organization and the Border Environment Cooperation Commission so that they may assist her in achieving the goal of developing a repository with the most important chronic diseases in Mexico and US Border States, as well as environmental problems that have been identified as a priority for both bi-national agencies.[3]

4. Visit a host tracking state to acquire knowledge from their lessons learned from May 20-21, 2013. *Please see Host Site Visit section found later in this document.*
5. Obtain available asthma related data from pertinent Mexican agencies.

The PI contacted by email the General Director of Urban and Regional Contamination from the National Institute of Ecology and Climatic Change (INECC) to gather information about air pollution on the Border, as well as ozone information. Via the email, the PI explained the purpose of the project and the need for the environmental information. However, a response to the email was never received, nor was there any response to follow up telephone calls. Regrettably, it has proven to be extremely difficult to gather information from Mexican officials at both the regional and local levels. However, should the opportunity arise for continuation of this project, the PI would recommend addressing the development of a data sharing agreement to the Minister of Health and Environment. Based on experiences to date with regional and local Mexican officials, it appears the development of a share agreement at this level, an agreement which would be signed by both countries, would be the only way to facilitate the exchange of information. Additionally, the agreement would need to identify governmental officers and staff in Mexico City, as well as those at the regional and local levels, that would be assigned to work on the project and gather the information, as well as maintain the continuum of communication between Mexico and US counterparts. To do otherwise would only lead to the continuation of unproductive telephone calls and emails, and researching various pertinent Mexican agency websites that are not maintained with up to date information, or lack the data entirely. To continue operating this way would be an unproductive use of time and funds.

6. Develop asthma prototype utilizing data gathered from the US and available data from Mexico.

The asthma prototype, in excel format, has been completed for the U.S. asthma databases with data obtained from the CDC Behavioral Risk Factor Surveillance Systems (BRFSS) website. Information not available through CDC was requested by the PI through the DSHS Epidemiology Department. As of yet, the data from Mexican has not been provided for the reasons stated in Item 5. The data needed has been obtained from the Ministry of Health websites and Health Secretary.

7. Implementation plan has been developed and provided to the workgroup for review and comment. This plan helped the fellow to elaborate a proposal for the continuation of the study.

Based upon the experience obtained in this study the overall recommendation for the implementation plan is: to develop a framework for a system, including processes in phases and specific steps, required for the development of a bi-national environmental and health tracking system. This stage would be a demonstration project in which emphasis is placed on: 1) identification of needed tools and capabilities; 2) comparison of current systemic strengths and, weaknesses; 3) identification and/or recommendations for training/education models; and, 4) development of indicators for measuring environmental health.

Statement of Relevance / Rationale

The goal of the Texas fellowship project is to develop an implementation plan for building a bi-national Texas-Mexico Border environmental public health tracking network. The area is facing a critical environmental health knowledge gap that compromises our national efforts to reduce or eliminate diseases that might be prevented by better managing and/or preventing environmental pollutants. The health disparities faced by the Texas-Mexico Border population makes it imperative to identify databases from both countries that could provide needed information to public health professionals to reduce and prevent chronic and infectious disease health problems.[4] This is especially true for chronic diseases and conditions such as diabetes, asthma, obesity and childhood cancer, which can potentially strike hundreds of thousands of American and Mexican families each year.[5] Moreover, environmental hazards impact the two countries at both social and economic levels. Therefore, the development of an environmental public health tracking program and information system that could help identify areas of concern and assess and link health indicators with environmental hazards, would not only be invaluable for public health decision-making and outreach, but also help improve access to environmental data sources and right-to-know tools for the border region.

III. REPORT ON TRACKING ACTIVITIES

Background description

National conference for ASTHO fellows (contractors) will not be held this year. Instead, a one day meeting will be held in Atlanta, Georgia so that the fellows and ASTHO program officers can meet. The meeting date was on August 27, 2013Centers of Disease Control, Chamblee Campus, Atlanta, Georgia.

Learning Experience

Meeting with all other ASTHO fellows and learning from their own projects was very interesting because of the diversity of their topics such as radon, lead, infant mortality, portal development and building a regional tracking network. The information the Tracking Branch Team provided was concise but very important since many of us will be able to contact them directly with questions and most importantly ask for their support in order to implement some of our ideas or needs local agencies or academia might identify. Networking was one of the key most important achievements of the meeting for all attendees since we will be able to continue our peer-to-peer communication.

Host state site-visit

Summary

On May 20 – 21, 2013, Dr. Genny Carrillo Zuniga traveled to Louisiana to meet with staff in the Office of Public Health, Section of Environmental Epidemiology. The meeting was held with the Environmental Public Health Tracking Program team. The day and a half meetings covered

the most important aspects for the development of Data Sharing Agreements and MOUs; Program Marketing and Outreach; Building a Network: The Role of Information Technology; Program Marketing and Outreach; Data Standardization , Data Release & Confidentiality measures; Data Presentation and Data Questions & Answers; LA Asthma Management & Prevention Program: Program Overview & Summary of Activities.

Note: The Texas Department of State Health Services (DSHS) epidemiologist planned to attend the host meeting with Dr. Carrillo, but unexpected commitments did not permit her to attend. However, she was able to join the meeting on the second day, via conference call.

Accomplishments

Dr. Carrillo contacted the host state representative to discuss logistics for the trip, the agenda and to ask for advice regarding the asthma prototype that she is developing and how this learning experience might aid her in that effort. They communicated several times prior to Dr. Carrillo's visit, exchanging examples on how to present data, what indicators were relevant for the project and advice on how to develop the buy-in of other partners in US and Mexico.

Learning Experience

As is normally the case with the development of new programs, the PI found that the host state experienced growing pains related to this project. However, recognizing the importance of overcoming delays and other logistical problems as soon as possible, they were successfully able to do so. Also, recognizing the need for a planning document, the host state staff developed such a tool, which they in turn shared with Texas. The PI believes the document will be a useful tool for the Texas project since it includes information related to network implementation and IT specifics, development of outreach materials, how to develop a related webpage, a how to guide for processing the data with a SAS code, a data dictionary and templates for utilizing the data, depending upon the audience viewing it. In addition, they developed specific GIS data maps. All the information has been placed in metadata and static reports are provided to the public upon request. The reports indicate where the data was obtained, limitations, additional links, etc. Note: Explanation of data suppression, data aggregation and metadata was provided.

The learning experience included the importance of:

- Evaluation of needs and priorities through assessment of agency infrastructure and workforce capacity, the identification of key players, obtaining buy-in, and the role of a technical advisory group.
- Data warehousing and reporting overview, technical architecture overview, explanation of how GIS maps are made and the levels of approval for publication and use of different formats, depending on topic in hand. Rules for data suppression & aggregation, data querying and data presentation were also provided.
- Community education and the development of an outreach plan, e.g., establishing partnerships with key partners; need to meet with partners to obtain information to identify the groups' environmental health needs and concerns; collaboration with partners to determine appropriate methods for communication messages to different audiences and working with partners to revise and relay the information to your target audiences, as

needed. Additionally, if the partner is a non-profit and is offering services to clients/patients at no cost, their services are promoted, e.g., training, etc.

- Ensuring that the mission of the program is met through the development of a communication plan, which should include the program's objectives and activities to be implemented during the duration of the program. The objectives and activities should be doable and realistic, revising the plan to reflect needed changes. The use of newsletters, brochures, social media email groups and webinars was encouraged.

Additionally, the PI learned the use of environmental public health tracking tools can be used by:

- Public health professionals to: describe magnitude and trends; describe spread and distribution; identify populations at risk; plan interventions and response; detect changes in health practices, and inform and educate the public, and stimulate behavior change.
- Policy makers to evaluate programs and policies and to propose new or policy changes.
- Scientists that do research in environmental and health associations.
- Urban planners for assistance in urban planning.

Concerns to address when developing environmental public data tracking

- Missing data elements or quality
- Data formats not uniform
- Data steward interpretation of data, i.e., quality
- Collaboration with the data steward to improve future data and formatting
- Need and advocating for changes
- Ownership of the linked dataset (data use agreement should address these concerns)
- Political concerns regarding use of data
- Ensuring all stakeholders are invited to participate in data interpretation and have the opportunity to provide input on related reports

Lastly, the host state provided the PI a list of all states funded by the CDC, including list of their research projects, and a manuscript published: *Review of Adult Asthma Morbidity and Mortality, Louisiana, 2006-2010 – LA Morbidity Report (2013)*. Also, the PI was informed that the LA Asthma and Prevention Program use and analyze BRFSS, ED, Louisiana Hospital Inpatient Discharge Database (LAHIDD) and Medicare data. The PI also learned that unlike Texas, their state legislature allows reimbursement for asthma education.

Application of what was learned

The amount of information the PI was able to gather during the meeting with the host state was extremely informative and helpful toward the development of the asthma prototype/ repository for the US Texas-Mexico. Additionally, the PI was provided suggestions for a *bi-national border agreement regarding data sharing and other details that are mentioned later in this document. The information the host state provided was comprehensive and provided in a manual they developed, which will assist the PI in making appropriate programmatic changes suited to the border communities. The PI is very appreciative of the host state's efforts to

provide the benefit of their experience and guidance all of which will be invaluable to this project.

*** Host state suggestions for the development of cross border shared agreement/memorandum of understanding (MOU)**

Determine scope of non-resident data to be exchanged – This step would involve identification of essential, minimum data elements needed by each state/country’s hospitalization data users. The MOU must acknowledge that all laws, rules and regulations from the state/country where the data was received will be adhered.

Drafting the MOU – Examples of items to be addressed in the MOU includes:

- Will this be an ongoing exchange?
- How often data are exchanged
- What will be the re-release rules of the data exchanged?
- Will the MOU be a no-cost exchange?

SMALL PROJECT

Project summary/Abstract

For the last 20 years US Texas-Mexico Border governments have put into action diverse procedures to improve domestic and bi-national environmental and public health conditions for communities living along the 2000 mile border. Despite the substantial progress both governments have made through these efforts, many border communities still face harsh economic and health disparities, including disparate environmental impacts. The lack of access to resources and environmental information available to them further places border residents at a higher risk for poor health outcomes. Moreover, environmental hazards impact the two countries at both the social and economic levels. Further complicating this issue is that Texas residents historically have ranked below national averages on many population-based public health indicators, including environmental, e.g., in 2002 Texas was included in the top sixteen states responsible for the total amount of chemical releases to the environment. The health disparities faced by the Texas-Mexico Border population makes it imperative to identify databases from both countries that could provide needed information to public health professionals to reduce and prevent chronic and infectious health problems. This is especially true for chronic diseases and conditions such as diabetes, asthma, obesity and childhood cancer, which can potentially strike hundreds of thousands of American and Mexican families each year.

To specifically address these issues, a Texas-Mexico Border environmental public health tracking program and information system will be developed that can help identify areas of concern, and assess and link health indicators with environmental hazards that could serve as an invaluable resource for public health decision-making and outreach.

Specific Aims

The project will be two pronged: a) An asthma prototype of currently available data will be developed for Hidalgo County since it has one of the highest asthma-related hospitalizations in Texas; and b) the development of a workgroup by the Texas A&M Health Science Center-School Rural Public Health (TAMHSC-SRPH), in collaboration with the Texas Asthma Control Program (TACP), Texas Department of State Health Services (DSHS), that will include and utilize key personnel from other pertinent agencies and stakeholders to identify important environmental public issues facing the Texas-Mexico Border.

Benefits and significance to his or her state and EPHTN

The Texas project model developed will include other chronic diseases that are important to US Texas-Mexico Border States due to the daily transit of migrants between borders. It is important to identify the relationship between health and environment in Border States that could impact policy makers, legislation and immigration issues when related to infectious diseases such as Tuberculosis or HIV, which are not thoroughly followed from one country to the other. In addition, data will be available to local and state health departments, physicians and other public health officials so that they may analyze trends over time; identify high-risk groups; target effective public health and environmental interventions; advance public health research; and guide public health legislation. Also, the model will be able to be replicated in other states, with some state specific modifications.

Results/Expected Outcomes

The expected outcome of this fellowship is the improvement of access to environmental data sources and right-to-know tools for the Texas-Mexico Border region, thereby providing policymakers and public health practitioners a tool that is critical toward the development of sound environmental health priorities. Further, implementation of a tracking network will help both governments provide this important information to the public through community education and outreach.

Limitations

The primary limitation of this study will be in the development of data sharing partnerships between Texas and Mexico. Based on prior experience, asthma information from Mexico will be difficult to obtain within the timeframe of this fellowship. Much of the Mexican data is unavailable through the websites of the various relevant agencies. When it is available, the data is usually not up to date. This is further exacerbated by the difficulty in reaching pertinent Mexican personnel by telephone and email. However, any information obtained from Mexico will be included in the implementation plan. It is also important to note that databases available to researchers from both countries are housed in various agencies making coordination of data somewhat problematic, as well as difficult to document possible links between environmental hazards with chronic and infectious diseases. That said all efforts will be made to accomplish project objectives within these constraints.

IV. Planned activities

Planned activities will include the review of latest scientific literature regarding National Baseline Tracking of Diseases and exposures, including other relevant literature. In addition, a partnership with relevant stakeholders at the local, state, and federal level within the US-Texas Border community will be developed, bringing them together through an in-state meeting to identify databases available and begin development of an implementation plan. Efforts to hold a similar meeting with identified Mexican representatives to identify databases from their pertinent agencies will be made. This would include sharing with them US activities to date.

Action plan for future tracking activities

Action strategy is to develop an implementation plan for building a Texas-Mexico Border environmental public health tracking network that could help identify areas of concern and assess and link health indicators with environmental hazards thereby improving access to health and environmental data sources.

Specific aims and long-term goals

Specifically, the aim and long term goal of this project is the establishment of a bi-national data network that will allow decision-makers to make evidenced based assumptions regarding relationships between environmental hazards, at-risk populations, and observed health effects.

Approach/strategy to realize goals

Meet with local and regional stakeholders to develop an understanding of what is being done within the region and nationally and to relate what those experiences mean for Hidalgo County, including identifying existing databases that will contribute to implementation of such efforts. A meeting will also be initiated with Mexican partners to begin identifying environmental data they have available to determine how pertinent data may be shared. Upon identification of available US Texas-Mexico data, an implementation plan will be drafted.

V. Conclusions

ASTHO has provided Texas the opportunity toward the development of a much needed health environmental database network, and allowed for the evaluation potential processes, limitations, and potential application of a US-Mexico database network. Currently there is not a data infrastructure to link exposure to environmental hazards with chronic disease outcomes – not in Texas or Mexico. While there is related data available from a variety of agencies in both countries, the difficulty lies in identifying what data is available from which pertinent agency, the individuals responsible for the data and how to obtain it, making coordination of available data problematic. Moreover, based on prior experience, information is difficult to obtain from Mexico as Mexican agencies do not often post relevant data on their websites and when it is posted it is usually not up to date. This is further acerbated by the difficulty in reaching pertinent

Mexican personnel by email and telephone to obtain their assistance in overcoming these barriers.

In time Texas will have a detail plan in place to submit a competitive application for the next CDC RFA, should it become available. Moreover, it is anticipated project outcomes will serve as a reference for future research into the link between chronic disease and exposure to environmental hazards. Finally, results of the pilot project will be shared with all potential stakeholders in the state, as well as with other states' ASTHO fellowship representatives. This study has served as a platform for a proposal for the Border Environmental Cooperation Commission. If funded, it will help to initiate a dialogue with Mexican agencies looking to develop an effective working relationship between agencies which is also critical as it would foster the development of an Environmental Public Health Tracking System for the US-Mexico Border and could lead to policy changes that would prove mutually beneficial to both countries.

VI. Reference/Supporting Materials

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