"How Border Clinicians Access Evidence-Based Information and Implement into Practice"

U.S. - Mexico Border Centers of Excellence Consortium
Forum Proceedings
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U.S. Department of Health and Human Services
Health Resources and Services Administration
Bureau of Health Professions

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Agenda

U.S.-Mexico Border Centers of Excellence Consortium Forum
Estancia La Jolla Hotel
Sunday, July 19, 2009

Time	Event	Location
8 – 9:00 am	**Continental Breakfast/Registration**	
9 –10:00 am	**Welcome By HRSA Staff and Meeting Overview**	**Learning Theater**

Invited Guests:

Christina Villalobos, MPH
Public Health Analyst
HRSA Office of Rural Health Policy

Frank Cantu, MS
Field Director
HRSA Border Health Division
Dallas, Texas

<u>Plenary Presentation</u>:
"Overview   of the White Paper: How Border Learning Theater Clinicians Access Evidence-Based Information"

Martha A. Medrano, MD, MPH
Associate Dean of Continuing Medical Education
UT Health Science Center San Antonio

10 –10:15 am	**Refreshment Break**	
10:15 – Noon	<u>**Panel Discussion**</u>: **"Best Practices of Implementing Evidence-Based Information Into Border Clinicians' Practice"**	

Marisa Soto-Rowen, PharmD, CDE   **Cypress**
Clinical Pharmacist
El Rio Community Health Center Pascua Yaqui
Clinic
Tucson, Arizona

Harry E. Davis, II, MD, FACP   **Learning Theater**
Vice Chair for Education
Department of Internal Medicine
Texas Tech University Health Sciences Center
El Paso, Texas

Jose Leonardo Loaiza, MD   **Learning Theater**
Assistant Professor
Department of Family and Community Medicine
Texas Tech University Health Sciences Center
El Paso, Texas

Oralia Bazaldua, PharmD   **Learning Theater**
Associate Professor
Department of Family and Community Medicine
UT Health Science Center San Antonio
San Antonio, Texas

Conchita M. Paz, MD   **Pacifica Ballroom A**
Family Practice Physician
Las Cruces, New Mexico

William Stanton, MD   **Pacifica Ballroom B**
Medical Director
Scripps Cancer Center at Scripps Mercy Hospital
San Diego, California

Noon –1 pm	**Lunch**	**Pacifica Pre-Function A**
1–2:30 pm	**State Meeting:** **To discuss "White Paper and Best Practices"** B1 California B2 Arizona B3 New Mexico B4 Texas	**Learning Theater**
2:30 pm	**Refreshment Break**	**Learning Theater**
2:45 pm	**State Reports and Recommendations**	
3:45 pm	**Wrap-up**	
4:00 pm	**Adjournment**	

Keynote Speakers' and Panelists' and Bio Sketches and Presentations

Welcome and Meeting Overview

Christina Villalobos, MPH, Public Health Analyst, HRSA, Office of Rural Health Policy

Ms. Christina Villalobos studied at Texas A&M University, College Station, and obtained a Bachelor of Science in Health with a Community Health option and an emphasis in Science. She subsequently pursued her Master of Public Health with a concentration in Community Public Health and Management at the School of Rural Public Health – Texas A&M University System Health Sciences Center, where she gained public health experience with a particular focus on rural and underserved populations. Prior to formally joining the Health Resources and Services Administration (HRSA), Christina also gained experience working in a regional health center clinic and completed her graduate practicum in HRSA's Maternal and Child Health Bureau.

Ms. Villalobos joined HRSA in September 2007 through a competitive federal government program, "HRSA Scholars," used to recruit and train talented individuals for federal positions. She rotated in various bureaus and offices throughout the agency, including the Bureau of Health Professions, HRSA's Office of Planning and Evaluation, the HIV/AIDS Bureau, and HRSA's Office of Information Technology. Christina serves as a Project Officer for the Office of Rural Health Policy (ORHP) Community-Based Division and as headquarters staff for the Border Health Division. Since February 2009, she has served as the Bureau of Health Professions' acting Project Officer for the Centers of Excellence U.S.-Mexico Border Health Consortium. Christina is currently working with the Consortium to disseminate the U.S.-Mexico Border Health Community Engagement Directory.

Frank Cantu, MS, Field Director, HRSA Border Health Division, Dallas, TX

For the past decade, Mr. Frank Cantu has served as field director for the Health Resources and Services Administration's (HRSA) Dallas Field Office, which exists to provide health care access to the underserved in a five-state area. He directs HRSA's Division of Border Health, working directly with health care organizations along the U.S.-Mexico border to improve the availability and accessibility of health care services. He previously worked for the United States Public Health Service for 40 years.

In 2000, he was selected to simultaneously serve as HRSA's acting associate administrator in Rockville, MD, and the field director in Dallas. In the capacity as acting associate administrator, he was responsible for the guidance, direction and assessment of a staff of more than 300 who conduct the operations of HRSA's 10 regional offices across the United States. He provided leadership in Dallas and Rockville concerning the administration of HRSA programs that provide access to quality health care for Americans, and he communicated regional health issues to the HRSA administration.

A native Texan, Cantu attended Southern Methodist University, where he studied financial management, personnel administration and public administration, earning both bachelor's and master's degrees. He also served in the U.S. Marine Corps during the Vietnam War, earning two Purple Hearts and a Bronze Star.

 "Overview of the White Paper: How Border Clinicians Access Evidence-Based Information"

Martha A. Medrano, MD, MPH, University of Texas Health Science Center San Antonio

Dr. Martha A. Medrano (MD, MPH) is Professor in the Department of Psychiatry, Pediatrics, Family and Community Medicine and Obstetrics and Gynecology at the University of Texas Health Science Center at San Antonio (UTHSCSA), and Associate Dean of Continuing Medical Education (CME).

Dr. Medrano has led the UTHSCSA School of Medicine's efforts to transform CME activities as a bridge to quality as endorsed by the Accreditation Council on Continuing Medical Education. The Office of Continuing Medical Education strives to increase physician competencies, change physician behaviors and improve patient outcomes by developing CME activities that support the aims of the UTHSCSA Center for Patient Safety and Health Policy.

Dr. Medrano is uniquely qualified for this role and brings seven years of experience as the Director of the Medical Hispanic Center of Excellence and Director of Professional Development for the UTHSCSA National Center of Excellence in Women's Health. She has led multidisciplinary educational initiatives across the Health Science Center in her past roles.

Dr. Medrano has an interest in teaching medical students, and other health profession students, about the differences in cultural health beliefs. She has assisted in the development of cultural and linguistic competence, teaching materials, case-vignettes and case simulations. Dr Medrano has developed the BELIEF™ Instrument teaching medical students how to ask patients about their alternative health beliefs and practices. She has also developed the

INTERPRET™ Module teaching medical students about appropriate interpretation methodology with ad hoc interpreters.

Dr. Medrano has been supported by the Aetna Foundation to develop an online Cross- Cultural Communication Course for Health Professionals. Her current projects are the creation of on-line training in organizational self-assessment of culturally and linguistically competent mental health services in South Texas. She is also developing a Post-Partum Depression Online Course targeted at primary care physicians and other health professionals specifically addressing the health and mental health care needs of Hispanic women in South Texas. She currently serves on the Aetna Racial & Ethnic Equality External Advisory Committee.

She was awarded the Edgar C. Hayhow Award during the 2007 American College of Health-care Executives Annual meeting for her article, "Self-Assessment of Cultural and Linguistic Competence in an Ambulatory Health System," which was published in the Journal for Health Care Management. She was also recognized as one of the 100 Most Influential Hispanics in Hispanic Business Magazine in 2008.

Panel Discussion: "Best Practices of Implementing Evidence-Based Information Into Border Clinicians' Practice"

Representatives from Border States:

Marisa Soto-Rowen, PharmD, El Rio Health Center Pasqua Yaqui Clinic, Tucson, AZ

Harry E. Davis, II, MD, Texas Tech University Health Sciences Center, El Paso, TX

Jose L. Loaiza, MD, Texas Tech University Health Sciences Center, El Paso, TX

Oralia Bazaldua, PharmD, University of Texas Health Science Center San Antonio, San Antonio, TX

Conchita M. Paz, MD, Family Practice Physician, Las Cruces, NM

William Stanton, MD, Scripps Cancer Center at Scripps Mercy Hospital, San Diego, CA

Marisa Soto-Rowen, PharmD, CDE

Ms. Marisa Soto-Rowen is a Clinical Assistant Professor in Pharmacy Practice and Science at the University of Arizona College of Pharmacy, and a Clinical Pharmacist at El Rio Community Health Center Pascua Yaqui Clinic in Tucson, Arizona. She received her Doctor of Pharmacy

degree from the University of New Mexico College of Pharmacy in Albuquerque, and conducted her General Pharmacy Practice Residency at the Southern Arizona Veterans Affairs Health Care System Hospital in Tucson. Because of her interest in diabetes and the well-being of her patients, she became a Certified Diabetes Educator.

Ms. Soto-Rowen is a member of multiple state and national organizations including the American Diabetes Association, the Arizona Pharmacy Alliance, and the Association of Clinicians for the Underserved. For her work in diabetes care, she has received multiple awards and distinctions including Distinguished Young Pharmacist of the Year Arizona (2005), the American Society of Health System Pharmacists Best Practice Award (2006), and the Arizona Pharmacy Alliance Innovative Pharmacy Practice Award (2007).

Providing Evidence-Based Services at El Rio Community Health Center,

Tucson, Arizona

El Rio Community Health Center (El Rio) provides quality, accessible health care to more than 1,000 people per day through its network of 16 community-based clinics located throughout Pima County, Arizona. The clinic serves primarily low-income and medically underserved people. Of the 74,526 patients serviced in 2007, 80.7% were at or below the federal poverty line, 47% were on Medicaid, 41.4% were children, and 27% were uninsured.

Over the years, clinical pharmacists at El Rio have developed a process to 1) identify new, evidence-based information that may benefit their patient population, particularly those individuals suffering from diabetes; 2) review articles and gather evidence to inform the clinic's decision-making process; 3) recommend new medication or procedures to the clinic's Medical Executive Committee; and 4) conduct presentations and training to clinic staff and providers to support the adoption and implementation of new clinical practices.

The Pharmacy and Therapeutics Committee at El Rio is comprised of three clinical pharmacists working at 3 different clinic sites: the El Pueblo Clinic, Pascua Yaqui Clinic, and the Congress Clinic. Clinical pharmacists stay up to date with the medical literature through online information resources such as UptoDateOnline.com, Micro-medics, Hippocrates, and Lexicom. Provider questions, requests to use new drugs, practice guidelines' updates, reviews of new studies, and FDA drug alerts are usually the initial motivation to conduct a literary review process. Clinical pharmacists, with support from students, staff and other providers, review the scientific literature to collect evidence about the new procedure, medication or practice in question. Clinical pharmacists then meet to analyze and discuss the information

collected. The Pharmacy and Therapeutics Committee subsequently makes a recommendation to the Medical Executive Committee, to adopt a new medication, procedure or clinical practice.

Some of the factors that the Pharmacy and Therapeutics Committee considers when recommending the adoption of new medications or procedures include: the evidence demonstrating that the new medication or procedure is more effective than the standard practice; the cost of the new medication or procedure; if the new medication or procedure is covered by insurance companies; if the new medication or procedure requires extensive training; and if there are cultural, language or literacy barriers that may affect the adoption of the new medication or procedure among the patient population.

Harry E. Davis, II, MD, FACP

Before coming to TTUHSC El Paso in December 1997, Dr. Harry E. Davis was assigned to William Beaumont Army Medical Center (WBAMC), where he served as Chair of the Department of Medicine. Additional positions at WBAMC included Chief of the General Medicine Service and Internal Medicine Clinic. Dr. Davis was also assigned temporary duty in Haiti filling numerous positions, including Commander, Surgeon, and Chief Medical Officer.

After retiring from the military, Dr. Davis joined the TTUHSC EL Paso faculty as Associate Professor of Medicine, Department of Internal Medicine, in 1997. Since his appointment he has served as Clerkship Director, and most recently as Interim Regional Chair, Department of Internal Medicine, from July 26, 2007 to March 1, 2009.

Jose L. Loaiza, MD

Dr. Jose L. Loaiza, prior to coming to TTUHSC El Paso in 2004, worked as a Substance Abuse Counselor while studying for licensure to practice medicine in the U.S. He completed his residency at TTUHSC El Paso in 2007. During that time he served as House Staff Vice-President, House Staff President and Chief Resident within the Department of Family and Community Medicine.

After completion of his residency, Dr. Loaiza served the Native American Community on the Mescalero Apache Reservation and then went on to work with Piedmont Health Services Inc., in Carrboro, North Carolina. Dr. Loaiza was recruited to return to El Paso to serve as faculty under the new TTUHSC Paul L. Foster School of Medicine in the fall of 2008.

Oralia V. Bazaldua, PharmD, FCCP, BCPS

Dr. Oralia Bazaldua is currently an Associate Professor at The University of Texas Health Science Center at San Antonio in the Department of Family and Community Medicine. She completed her BS in pharmacy at the University of Texas at Austin, her doctorate degree from The University of Oklahoma College of Pharmacy, and her residency from The University of Colorado College of Pharmacy and Kaiser Permanente in Denver, Colorado.

She has been director of pharmacy education for the family medicine residency program for the last 12 years. Current job responsibilities include teaching pharmacotherapy to medical students and medical residents as well as pharmacy students and pharmacy residents. Her clinical teaching occurs in both the inpatient and outpatient settings, and her didactic sessions are in both small- and large-group discussions. She also staffs and directs a consult clinic where she helps optimize drug therapy for patients. Her research interests focus on health literacy and appropriate medication use in minority patients.

She is committed to her community and is involved with local health literacy efforts. She has been invited to make numerous presentations locally and nationally on the topics of health literacy and cultural diversity. She is also very committed to improving and encouraging higher education in the Hispanic community.

Teaching Evidence-Based Pharmacotherapy

The education of Family Medicine Residents was discussed with regards to evidence-based pharmacotherapy. Specifically, the different methods and formats of education were reviewed. Residents have monthly conferences where they learn how to answer their own clinical questions in an evidence-based medicine (EBM) manner. This is a 2-hour session in a computer classroom where residents look up the answers, which are then discussed in a group. Another fun way of teaching is through a format called "pharmaco-jeopardy" based on the TV game show. Residents keep up to date by participating in a monthly journal club where they review recent publications, and through a round-table discussion where they review summaries of "Prescriber's Letter." The Department of Family & Community Medicine also has weekly grand rounds on primary care topics including drug therapy. Also on a weekly basis, selected primary care topics are taught using patient cases with the provision of evidence-based answers/solutions. In the hospital, residents are exposed to evidence-based pharmacotherapy at the point of care with actual patients. Finally, residents have the option of participating in a 2- to 4-week pharmacotherapy elective rotation, which is focused on topics of interest for each resident.

Conchita M. Paz, MD

Dr. Conchita Paz has been a Board-Certified Family Practice Physician for 20 years in her hometown of Las Cruces, New Mexico. She completed her education through the University of New Mexico School of Medicine and her residency with Creighton University in Omaha, Nebraska. In 1994, she became a founding member of the National Hispanic Medical Association. This afforded her the opportunity to participate in a Leadership Fellowship at New York State University in 2000. She focused on Cultural Competency and its role in practicing medicine.

Dr. Paz received a Presidential appointment to the White House Commission for Complementary and Alternative Medicine. She is currently active with the Robert Wood Johnson Foundation as a member of the National Advisory Committee focusing on Aligning Forces for Quality: Improving Health and Health Care.

Dr. Paz was President of the New Mexico Hispanic Medical Association in 1992-1994. She was also Secretary for the Doña Ana County Medical Society from 1991 to 1996. Dr. Paz has been active with the Memorial Medical Center, serving as Chairperson for the Family Practice Department, and was selected as Chief of Staff from 2004 to 2005. She has a passion to support the awareness of cultural aspects in practicing medicine and fostering the youth to see medicine as an exciting career. Dr. Paz and her partners were among the first to implement electronic medical records and coordinate the accessibility of medical information with the two health care facilities in Las Cruces.

Electronic Medical Records: Assisting Evidence-Based Medicine

For the past 5 years, Dr. Conchita Paz has implemented an electronic medical records system of her own design that she has integrated to various elements of her clinical practice. The system allows for ways to track chronically ill patients in the management of their symptoms and interventions. Similarly, it allows for mechanisms to deal with complex-prescription or multiple-referral cases which, in a typical setting, could be subject to mismanagement.

From a public health standpoint, these electronic medical records systems can serve to track immunization patterns, not only in terms of individual patient compliance but also in terms of collective behavior and outcomes that can be examined cross-sectionally and longitudinally. Therefore, Dr. Paz stressed the potential of record systems of this sort to foster evidence-based practice. On the one hand, they allow for better management of clinical practice per se.

On the other hand, and most significantly, they allow for practice-generated research projects and specific research agenda designs about a multiple array of inter-professional and community health aspects of clinical practice that could not be possible otherwise.

William Stanton, MD

Dr. William Stanton is a medical oncologist who is experienced in building a balance between successful cancer program management and effective patient care. For the past 25 years he has enjoyed an oncology practice, and he is the Medical Director of the Scripps Cancer Center at Scripps Mercy Hospital, a 700-bed, two-campus hospital that is the largest hospital in the Scripps Health Care System and the 10th-largest hospital in California.

He currently serves on the Boards of the Mercy Foundation, San Diego Hospice and Palliative Care, the Medical Oncology Association of Southern California and Internal Medicine Associates Management, Inc. He serves on the Border Sierra Regional Council of the American Cancer Society. For many years he has been named in San Diego Magazine's list of the San Diego region's Top Doctors.

Dr. Stanton also serves as chairman of Scripps Health's Network Cancer Program Committee. This body ensures uniformity and excellence in the care of oncology patients at all the hospitals of Scripps Health. The Scripps Cancer Center has been accredited by the Commission on Cancer as one of 30 network programs in the United States and is the only such program in California.

For many years Dr. Stanton has served as voluntary Chief of Staff of San Diego Hospice and Palliative Care, an institution known nationally for its commitment to education and research in palliative medicine. He is also a consultant in oncology strategic planning for Health Care Management Services. He has been engaged as an adviser in oncology program management and strategic planning for several health care institutions.

Dr. Stanton received his BA *cum laude* from Harvard University with a special interest in philosophy. Following college he attended the Harvard Graduate School of Arts and Sciences, and he received his medical degree from the Washington University School of Medicine in St. Louis. He is board certified in Internal Medicine and Medical Oncology. Dr. Stanton is a Clinical Professor of Medicine at the University of California, San Diego.

He currently serves on the Boards of the Mercy Foundation, San Diego Hospice and Palliative Care, the Medical Oncology Association of Southern California, and Internal Medicine Associates Management, Inc. He serves on the Border Sierra Regional Council of the

American Cancer Society. For many years he has been named in San Diego Magazine's list of the San Diego region's Top Doctors.

Providing Evidence-Based Oncology Services in a Large Health Care System

The Scripps Cancer Center began in 1999 by combining independent entities to promote cancer care and research. The Center has evolved into a network model with centralized functions, distributed technology and (largely) community-based patient care. The Center ensures attaining the highest quality patient care in a complex organization seeing a high number of cancer patients.

The Scripps Cancer Center has attained and maintained quality because of the belief that quality is not so much the result of a plan, but the result of an evolving process. Here are some things that worked for them.

1. Identify and organize stakeholders via their Network Cancer Program Committee.
2. Look for the low-hanging fruit—best practices within the whole health care system such as information technology and human resources excellence.
3. Take advantage of external accrediting bodies, such as the U.S. Commission on Cancer, to build a quality-driven program.
4. Find tools, such as disease-oriented task forces, to expand the pool of stakeholders.
5. Rethink which program elements work best as centralized resources and which work best closest to patient care.
6. Explore institutional service standards in addition to evidence-based professional care such as the service line team.
7. Solve the problem of locating technology, such as which technology should be at all campus sites, only one site, or a new common site.
8. At each step of the process, find ways of integrating the professional and the administrative conversation.

Executive Summary of the White Paper

Abstract

The U.S.-Mexico Border Center of Excellence Consortium conducted focus groups and in-depth interviews with practitioners at Community and Rural Health Centers to address the current status of how border clinicians access evidence-based and research information to utilize in their clinical practice. The focus groups and in-depth interviews were conducted between December of 2008 and February of 2009.

The clinicians selected for inclusion practice within the border communities of Arizona, California, New Mexico, and Texas. The clinicians included physicians, nurse practitioners, physician assistants, pharmacists, and dentists. Federally qualified Community Health Centers were specifically targeted for inclusion. The clinician participants were asked about their identification and utilization of continuing education activities and programs. Information about access and barriers was gathered, and the findings will be summarized as part of the White Paper. A thematic analysis was done to identify common themes within and between the individual state reports. For the overall summary, the common themes that emerged from the state reports were prioritized and ranked from the most important to least important themes. Ten broad themes emerged during the focus group sessions: 1) Evidence-based practice is perceived as an ideal; 2) Border clinicians recognize the importance of critically appraising research for its relevance to patients in the border region; 3) Cultural differences, poverty, and patients' low health literacy are significant challenges for clinical care in the border region; 4) Access to pharmaceuticals in Mexico has an impact on border clinicians' standards of practice; 5) Time is a more significant constraint than access to information resources; 6) Clinicians are challenged by the frequency of changes in research-based information; 7) Having an academic affiliation enhances access to new clinical information; 8) Information about complementary and alternative medicine (CAM) is relevant to clinical practice in the border region; 9) Information from Mexico and other international sources is used on a limited basis; and 10) There is a need for more continuing medical education (CME) events specifically addressing border health issues.

Introduction

U.S.-Mexico Border COE Consortium

The United States-Mexico Border Centers of Excellence Consortium (Consortium) was developed by the Health Resources and Services Administration (HRSA) Bureau of Health Professions (BHPr) with the purpose of defining more clearly the needs for health professionals, especially physicians, dentists, pharmacists, and nurses, in the border region. It encouraged partnerships via communication, collaboration, and coordination with various health professional schools, organizations, and HRSA-funded programs, including the Centers of Excellence Program (COE), the Community Health Centers, and the Division of National Centers for Health Workforce Information and Analysis.

The Consortium core members represent seven HRSA-funded COEs in the four U.S. Border States, with the University of Texas Health Science Center at San Antonio as the lead center. Other border area COEs participated in the planning of the research and researcher database that provides the data platform used in the present study. The Consortium core group members are the Universities of: *Arizona Health Sciences Center-School of Medicine Hispanic Center of Excellence*; *California, San Francisco-Fresno Latino Center for Medical Education and Research*; *New Mexico-School of Medicine Hispanic and Native American Center of Excellence*; *Texas Tech University Health Sciences Center at El Paso Hispanic Center of Excellence*; *Texas Health Science Center at San Antonio-Hispanic Centers of Excellence-Medicine and Dentistry*; *Texas Medical Branch at Galveston-School of Medicine Hispanic Center of Excellence*; and *Texas at Austin-School of Pharmacy Hispanic Center of Excellence*.

In its second year, Consortium members undertook the Research Database Project with the goal to: (1) assess the needs and resources related to health professions research workforce capacity and diversity of HRSA-funded programs; (2) address research education and training along the U.S.-Mexico border; and (3) serve as a resource for other research programs and institutions with an interest in increasing the health research workforce in the region.

An important part of translating research into clinical practice is the ability of, and mechanisms used by, the practitioners in border communities to access evidence-based information and clinical guidelines. Within the U.S.-Mexico border region, this poses a challenge because of the distance to academic institutions and libraries that house this information, access to CME, and other factors.

Recently, academic libraries began to expand their role as knowledge managers and vehicles for community outreach to public libraries and other non-traditional venues, to assist in the

dissemination of new scientific discoveries that could be implemented into practice. The mission of the National Network of Libraries of Medicine (NN/LM®) is to advance the progress of medicine and improve the public health by providing all U.S. health professionals equal access to biomedical information and by improving the public's access to information to enable members of society to make informed decisions about their health. The program is coordinated by the National Library of Medicine (NLM) and carried out through a nationwide network of health science libraries and information centers. It consists of eight Regional Medical Libraries (major institutions under contract with the NLM), more than 159 Resource Libraries (primarily at medical schools), and 4,762 Primary Access Libraries (largely at hospitals). The Regional Medical Libraries administer and coordinate services in the network's eight geographical regions. In 2006, the NLM awarded five-year Regional Medical Library contracts to the Houston Academy of Medicine – Texas Medical Center Library and the University of California, Los Angeles, to lead the two NN/LM regions that span the U.S.-Mexico border.

Working with resource libraries and other network members, the Regional Medical Libraries focus their efforts on reaching underserved health professionals in rural and inner city areas, public health personnel, and special populations. The NN/LM promotes access to sources of quality health information online, including the NLM's MedlinePlus and MedlinePlus en Espanola Web sites. These sites provide links to carefully evaluated, consumer-level health information in English and Spanish. A recent evaluation of MedlinePlus focused on the perspective of community health workers ("*promotoras*") working in the Lower Rio Grande Valley of Texas. This study identified several ways in which MedlinePlus is a valuable resource for *promotoras*.

Complementing MedlinePlus is a national initiative to develop and maintain databases of health service providers in specific geographic areas. There are now 27 MedlinePlus "Go Local" projects covering all or portions of 24 states. In the U.S.-Mexico border region, Go Local projects are currently maintained by the UT Health Science Center at San Antonio, the University of Arizona, and the University of New Mexico.

Immediate opportunities for NN/LM resource libraries in the U.S.-Mexico border region to collaborate on MedlinePlus Go Local projects include:

- Development and evaluation of a Spanish interface for MedlinePlus Go Local.
- Evaluation of Go Local directories from the perspective of community members living in the border region, including *promotoras*.
- Sharing best practices for maintaining Go Local border region projects.

In addition, in a recent Accreditation Council of Continuing Medical Education (ACCME) publication titled "Continuing Medical Education as a Bridge to Quality," accredited CME is linked to practice and focused on health care quality gaps. The following are important points from this document:

The ACCME, in the 2006 Updated Accreditation Criteria, provided links from CME to collective efforts for quality improvement.

- The ACCME accreditation requirements are evolving CME so that it is more effectively addressing current and emerging public health concerns.
- To make this commitment to quality improvement evident, the system asks accredited providers to embody the same dynamic of "learning and change" that they expect of their physician learners.
- Supported by the Updated Criteria, accredited providers state their CME mission in terms of changes in competence (i.e., knowing how to do something, "knowledge in action"), performance (i.e., what actions are taken), or patient outcomes that will result from their efforts.
- An accredited provider's program of CME is determined by the professional practice gaps of its own learners. These gaps reflect the health care delivered.
- Therefore, compliance with the Updated Criteria provides the assurance that accredited CME is synonymous with practice-based learning and improvement where, (1) the content of CME matches the scope of the learner's practice, (2) learning activities are linked to practice-based needs, and (3) changes in physician competence, performance, or patient outcomes are measured.

Purpose of the Focus Groups and In-Depth Interviews

The U.S.-Mexico Border Center of Excellence Consortium conducted focus groups and in-depth interviews with practitioners within Community and Rural Health Centers to address the current status of how border clinicians access evidence-based and research information to utilize in their clinical practice. The focus groups and in-depth interviews were conducted between December of 2008 and February of 2009. The following are the areas of focus for the questions, which are outlined in more detail in Appendix B of this document:

Defining the health information needs of the practitioners

1. How can we better define the health information needs within our geographic area?
2. What were the problems in accessing health information and continuing education?
3. How can access be improved?
4. What type of additional health information, continuing education or other resources could be helpful?

<u>What methods do practitioners use to access health information?</u>

1. What can we learn about how practitioners identify, collect, and analyze the information for various sources?
2. What gaps were identified in the information accessed?
3. How can we fill the gaps identified?

Literature Review

A literature search of 1996-2009 publications was conducted utilizing electronic search engines available within the University of Texas Health Science Center at San Antonio Briscoe Library. The search identified 1,917 articles in Medline limited to English language and human subjects. The search was done with all statements utilizing MeSH headings that are "focused" to ensure that they were main points:

1. *Evidence-based medicine
2. *Attitude of health personnel
3. Exp[lode] *patient care management
4. ut.fs. (which picks up the utilization subheading whenever it is used with any heading)
5. 2 or 3 or 4
6. 1 and 5
7. Limited to English/human = 1,917 citations

The primary author reviewed the abstracts from the 1,917 citations and selected 75 articles to review in depth that were judged to be relevant to the White Paper. The citations were divided and delegated for more detailed review by some of the coauthors and are included in the Citation Review section of this paper. Dr. Alexis Padilla then extrapolated from the detailed citation review to develop the Literature Review.

Methodology

Focus Group and In-Depth Interviews

<u>Selection of Clinicians for Focus Groups and In-Depth Interviews</u>
The clinicians selected for inclusion practice in the border communities of Arizona, California, New Mexico, and Texas. The clinicians included physicians, nurse practitioners, physician assistants, pharmacists, and dentists. Federally qualified Community Health Centers were specifically targeted for inclusion.

Focus Groups and In-Depth Interviews

The clinician participants were asked about their identification and utilization of continuing education activities and programs. Information about access and barriers were gathered and the findings will be summarized as part of the White Paper.

Thematic Analysis

A thematic analysis was done of each group report to summarize common themes in the individual state reports. For the overall results, the results by state were prioritized via the top five themes, ranking the most important to least important themes. This method will be utilized to formulate the conclusions within this White Paper.

Results

Summary of Participants' Demographics

Table 1. Health Professions of Participants

	MD/DO	RN/NP	PharmD/RPh	DDS	PA	Other	Total
Arizona	2		3	1			6
California	8						8
New Mexico							
Texas							
Brownsville							
El Paso	3	2	1				6
Harlingen	15	4		1	2	1	23
TOTAL	28	6	4	2	2	1	43

Table 2. Race/Ethnicity of Participants

	Hispanic	White	Black	Asian	Native American	Other	Total
Arizona	3	3					6
California	1	3		4			8
New Mexico							
Texas							
Brownsville							
El Paso	4	2					6
Harlingen	8	7	4	5			24
TOTAL	16	15	4	9			44

Table 3. Gender of Participants

	Male	Female	Total
Arizona	3	3	6
California	3	5	8
New Mexico			
Texas			
Brownsville			
El Paso	3	3	6
Harlingen	12	11	23
TOTAL	21	22	43

Table 4. Degrees of Participants

	Assoc	Bach	Master	Doctoral	Total
Arizona				6	6
California				8	8
New Mexico					
Texas					
Brownsville					
El Paso			2	4	6
Harlingen		1	6	16	23
TOTAL		1	8	34	43

Table 5. Received Terminal Degree

	1960	1970	1980	1990	2000	Total
Arizona		2		3	1	6
California	1	1		3	3	8
New Mexico						
Texas						
Brownsville						
El Paso			2	2	2	6
Harlingen	1	5	6	8	4	24
TOTAL	2	8	8	16	10	44

Table 6. Longevity within the Institution (in years)

	<1	1 to 5	6 to 10	11 to 15	16 to 20	> 20	Total
Arizona	1	2	2		1		6
California		6		2			8
New Mexico							
Texas							
Brownsville							
El Paso		2	2		1	1	6
Harlingen	1	12	2	3	1	4	23
TOTAL	2	22	6	5	3	5	43

Summary of Overall Responses to Interview Questions

By Topic Area

Health Information Access Questions:

1. What kind of evidence-based health and research information do you access?

Type of Information
- Some clinicians interviewed said they often access: the American Diabetes Association guidelines; the JNC7 guidelines (Joint National Companion Guidelines) for hypertension; and the ATP3 guidelines (National Cholesterol Education Guidelines) for cholesterol management.

- Some clinicians agreed that they usually access information on conditions that they don't see often. They access information when they want to refresh their memory or get the latest recommendations on a particular condition or treatment.

Type of Information
- All of the clinicians said they access the American Academy of Family Practice, the New England Journal of Medicine, Cochrane Reviews, EBM (Evidence-Based Medicine) guidelines for health providers, and other public health journals.

Sources of Information

Most clinicians named online sources such as Uptodateonline.com or Update.com, which summarizes the results of multiple studies and provides citations. This is an expensive subscription, but some of the clinicians said they persuaded clinic administrators to allow them to use part of their continuing education allowance to pay for this subscription.

- Others mentioned ClinicalGuidelines.com; Medline and online journals (through the University library); and Hippocrates.

- These clinicians are also members of their clinic's Pharmacy and Therapeutics Committee. The committee keeps up with new medications and research information, and makes recommendations to the clinic's Medical Executive Committee. The Executive Committee disseminates recommendations among clinic staff to change diagnostic procedures, disease management approaches, and prescription drugs available in the clinic's formulary.

- The dentist interviewed accesses evidence-based information recommended by Clinical Research Associates in Utah (a group of 250 clinicians who study new evidence on equipment, products, and biomaterials, and make recommendations to change dental

practice), and the University of Minnesota "What is New in Dentistry." He is a faculty member at A.T. Still University, which provides faculty and students with access to 130 textbooks online. He also attends conferences and faculty retreats, and participates in continuing education activities.

- The ob-gyn interviewed accesses a Web site from the American College of Obstetricians and Gynecologists, and attends conferences on a regular basis.

2. Who do you turn to for medication update information?

- Most clinicians use online sources such as micro-medics, Hippocrates, Lexicom Epocrates, American Academy of Family Physicians, Up to Date and Pub Med Web sites.

- Some clinicians interviewed talk to pharmacists at their clinic and review online textbooks.

- Some clinicians use journals specific to medications, pharmacopeia and medical letters.

3. What access do you have to Internet or computer services in your clinic setting to find health information or updates? Are these readily available in the patient exam rooms or your office?

- Almost all clinicians interviewed have computers with access to the Internet in their offices; most clinicians also have access to the computer and Internet in the exam room. One clinician does not have a computer with access to the Internet in the clinic.

- Almost all clinicians reported using Electronic Medical Records (EMR), and two were going to start using it within a few days.

- Attitudes about EMR were divided. Four clinicians were very happy with EMR technology. They highlighted the availability of patient education modules. They also indicated that this technology reduces errors, improves safety, improves communication, and reduces information fragmentation. However, it is an investment for the future because it is expensive and requires lots of staff training and support. Two other clinicians were not very happy about having to use EMR.

- A clinician commented that the adoption of EMR technology is a mind-set. Some providers (particularly older ones) are not accepting the change; there are lots of barriers and challenges. The clinic is providing training and decreasing the number of patients clinicians see on a day (at least temporarily, until they become more comfortable with this technology). Also, some of the clinicians said physician input into the development and implementation of EMR would have been helpful and would have improved overall use.

- Younger providers are more familiar with online devices, texting, using PDAs and Blackberries, etc. On the other hand, older clinicians don't feel comfortable with this

technology, have difficulty even typing, think that a computer in the room affects their ability to relate to patients, and are, in general, slowed down by EMR. These barriers make some of the clinicians feel very frustrated.

4. What access do you or staff have to the Internet, telephone conferencing, videoconferencing, or funds for CE in your practice setting?

- A few clinicians (clinical pharmacists) have PDAs and phones with access to the Internet that are paid for by their clinics. They persuaded clinic administrators to make this investment because they frequently use them to access online information (from micromedics, Hippocrates, Lexicom, etc.). Some clinicians have computers with Internet access. One clinician has only a telephone. A few clinicians have limited access to the Internet.

- Some clinicians are provided with funding and days off for continuing education. At one of the clinics visited, each clinician has a budget of $1,500 per year for CE, and each clinician may take 5 days off per year for CE. Some of the clinicians had no funds for CE and videoconference opportunities.

- A few clinicians mentioned having access to telephone conferencing and provider updates (from the central clinic). These meetings are held once or twice a month. They provide clinicians with updates on new clinical procedures, changes in prescription drugs, etc. Clinics located in more rural communities are using telemedicine (or telehealth) as a source for CE.

- Some clinicians commented that even though practitioners are using more online sources of CE, people still like to get away from home, go to a hotel in another city, and attend a conference. An Arizona clinician noted: "We are going through a transition in CE; clinicians in Arizona are accessing more and more CE via telemedicine and online devices."

5. To what extent did your school or training program have an evidence-based emphasis, and how has this impacted your current accessing of this type of information?

- A majority of younger clinicians were exposed to evidence-based medicine (EBM) while in school, and believe this made them more likely to use evidence-based information sources in their practice.

- Older clinicians were not exposed to EBM in school.

- One older clinician was not exposed to EBM, either, but he was affiliated with a hospital in New York for 8 years, and received training and assistance to get on board.

- One clinician was not exposed to EBM while in school because there was no emphasis on this, although in residency she learned evidence-based practice skills.

6. Do you access health information from Mexico to make decisions about your patients who might also be accessing health care in Mexico? For example, the Pan American Health Organization or World Health Organization?

- Most of the clinicians interviewed don't access any information sources from Mexico or PAHO.

- One clinician consults the Mexican PDR online. She looks for information on products that are not approved in the United States, and finds it very useful.

- One clinician looks for medications used in Mexico since patients come in with medications they bought south of the border.

- One clinician periodically- seeks information on the current trends in cross-border health issues as HIV and TB.

7. Do you access evidence-based information about complementary and/or alternative medicine?

- A few of the clinicians have access to information on complementary medicine, but others do not. Two clinicians don't even think these therapies have value; they said the therapies have not proven to be effective.

- Two clinicians believe in CAM because most of their patients are on Medicaid and don't have the money to see licensed practitioners. Some of these patients also buy herbs at the local *Yerberia* and often pay to see *Curanderos* who are not necessarily trained or licensed.

- A few physicians mentioned that they would refer patients to CAM and knew little about local resources related to these treatments. However, most were aware of some of the traditional beliefs around food and treatment for their patients from Mexico.

- One clinician consults the Internet for information on herbal treatments (potential herbal interactions, etc.), and refers patients to the clinic's alternative medicine program. She uses Web sites from Germany and Mexico to find information about herbal treatments and interactions. Germany has a process similar to the FDA to assess the efficacy of herbal treatments.

Relevance and Analysis Questions:

8. Once you have reviewed this new information, what is the deciding factor to the relevance of this information in your practice, practice setting, or patient population?

- Most clinicians indicated that they adopt new patient management approaches and medications once valid evidence is available that they are better than the standard practice.

- One clinician indicated that she doesn't adopt new medications quickly because she doesn't trust the pharmaceutical companies. She believes they are only out for the profit, and don't do enough studies before releasing and recommending new drugs.

- Four clinicians indicated that they also consider barriers to access to medicine, tests, and specialists due to health coverage and other costs.

Implementation in Practice Questions:

9. When do you think it is appropriate to implement new evidence-based information into your practice?

- Some clinicians indicate that the appropriate moment to implement new evidence-based information is the minute it becomes available. However, they also think clinicians need to consider the situation of the patient: the cost of the new procedure or medication, whether the patient has health insurance, and whether the health insurance covers this new procedure or drug. Clinicians need to evaluate whether new medications or procedures are better or more effective, but also whether they are affordable given the patient's circumstances.

- Two clinicians stated that even when new information appears in a clinical practice guideline, it doesn't mean that it is the result of research. Sometimes guidelines are developed from recommendations by a panel of experts, and sometimes these panels are biased by powerful clinicians who may be receiving funding from pharmaceutical companies. Therefore the subtle nuances of new recommendations must be carefully assessed. Unfortunately many studies have been biased by funding or a researcher's ulterior motives.

- All clinicians indicated that the appropriate time to implement new evidence-based information is when multiple studies confirm the positive impact/outcomes for the patients.

- One clinician indicated that it is appropriate to implement new evidence-based information the minute it becomes <u>accessible</u> and <u>affordable for the patients</u>.

- There was some concern about evidence-based practice information being disseminated in a timelier manner. It can take years to bring research to the clinical bedside, and more research needs to be conducted that demonstrates clinic and patient feasibility. This must be conducted in a "real world" or "clinic" setting as opposed to a research lab.

10. Have you made changes in your clinical practice, based on this new evidence-based clinical or research information?

- All clinicians indicated that they have made changes based on new evidence-based information. They gave examples, such as recommending to clinicians at their clinic that they use three antidepressants based on a new study assessing the efficacy of these medications (published recently in the Lancet); changing the endo/root-canal therapy and the materials used for resins based on new information; following recommendations on how often to check Hemoglobin A1C in diabetic patients, etc. One clinician gave examples such as bringing in additional tools and resources for 1) clinicians' and patients' handouts, 2) community resource lists and referrals, 3) flowcharts to follow in diagnostic workups, and 4) new obesity prevention, detection, and treatment guidelines. A specific example was shared about breast cancer screening and the algorithms developed for providers.

11. What are the barriers to implementing this evidence-based clinical and research information into your practice? Budget? Staff? Space? Other?

- According to the clinicians interviewed, the main barriers include: 1) lack of access to care because patients lack health insurance and other resources; 2) insurance company doesn't pay for the new drug or procedure; 3) new equipment is too expensive for the clinic to afford; 4) the new equipment or procedure requires extensive training (it takes time and money to implement); 5) a new equipment, procedure, or medication requires too much space (i.e. insulin inhalers were too bulky); 6) budgets; 7) lack of resources; 8) time (it is a challenge to disseminate the information to all clinic staff and physicians in a large group practice; 9) cultural and language barriers (does the patient understand how to use the new medication? Are the instructions in Spanish? Are the instructions written at an appropriate literacy level?); and, last but not least, 10) not enough medical providers to serve all the patients who need care.

Opinion Questions:

12. What could be done to improve the relevance of research for the U.S.-Mexico border region?

☐ **Participation and representation on steering committees that are attempting to move research into practice.**

☐ **Identification of common key health issues in the border region.**

- Most clinicians interviewed selected both options.

- Three clinicians preferred option # 1 because, in their opinion, health problems affecting the border (diabetes, poor nutrition, lack of exercise, cardiovascular disease, etc.) are already know. But the problem is that most research is done at a national level and often the results don't apply well to the border region. Conditions and problems are different on the border (a large population that lacks health insurance, cultural and language barriers, low literacy levels, poverty, undocumented populations, illegal immigration, drug trafficking-related violence, etc.). More research is needed in the border region to improve the health of border populations.

- However, the other clinicians saw option # 1 as more passive, more about talking than about doing. They preferred the other option because it was seen as taking action: finding out if other communities are affected by the same problems and if other communities have designed interventions that work well and could be replicated.

- Some of the issues discussed with this question included the fact that health education materials often don't apply to the diet and lifestyle of border residents, and the frequent perception by people in the border region that medical providers are not like them, don't look like them, and hence don't understand them. More prevention programs that incorporate the life and culture of border communities in the design of interventions and materials are needed. *Promotoras* are key cultural brokers, sources of information, and community advocates. Other professionals such as diabetes educators, health educators, program coordinators, and community leaders are important, as well.

- Some of the clinicians mentioned the importance of funding for research to implement pilot needs-assessment studies in local areas. Also, more training in research methods may be important for local clinicians in order to implement research that could move to practice quickly.

13. What are some useful methods or models that could be utilized to move research protocols and procedures into the clinical setting?

☐ **Listservs for clinicians**

☐ **Video Web events that convey information to clinicians**

☐ **Workshops or T/A sessions on MEDLARS* search techniques**
        (*Medical Literature Analysis and Retrieval System)

- E-mail and Listservs were identified as great tools to disseminate information. However, information should not be sent only to doctors or clinicians. *Promotoras*, diabetes educators, and other members of the health team should also be aware of new developments. For example, a clinician needed a job description for a nurse who trains patients on insulin pumps, and sent a request through a collaborative of people. In a matter of hours, 30 people sent sample job descriptions.

- Webinars and telemedicine were also mentioned as good tools to disseminate information. With telemedicine, students can see the presenter, the presenter can see the students, the students can ask questions, and they may talk directly with the presenter even from miles away.

- Some clinicians selected workshops as useful methods to share research protocols and procedures in the clinical setting.

14. Have you attended a border health-related conference or meeting? If so, which one?

☐ **U.S.-Mexico Border Health Association**

☐ **Local border health conferences hosted by academic institutions**

☐ **Local border health conferences hosted by local/state health departments**

☐ **Others:** _____

- Most clinicians interviewed had not attended or knew of any border-health related conference or meeting.

- One clinician mentioned that the most beneficial conferences she attended were organized by the Association of Clinicians for the Underserved, and the Migrant Network System. These events gave participants the opportunity to network and learn from practitioners working with underserved communities such as those in the border region.

- Another clinician receives a newsletter from the U.S.-Mexico Border Health Commission and has attended a couple of meetings organized by the local/state health department (but they were around outbreaks on measles and salmonella).

- Some clinicians interviewed had attended local border health conferences hosted by academic institutions, local/state health departments and the U.S.-Mexico Border Health Association.

15. What options do you recommend that HRSA could implement to improve the application of research in the clinical setting in the border region?

- Improve communications with clinicians, letting them know what is going on in the research arena. Also, involve providers in the recruitment of patients to participate in research studies.

- Promote studies on culture and language issues, health disparities, health literacy, etc. Focus also on diabetes, hypertension, mental health, HIV, and other topics that are very relevant for border communities.

- Organize large regional conferences that bring together border practitioners to talk about health problems affecting the region, what works, what doesn't work, new effective approaches, and interventions.

- Provide technical assistance locally and regionally. Bring border clinicians who have developed new and effective interventions to share these models with other border practitioners.

- Involve people on the front lines of providing clinical care.

- Improve access to research in order to get the researchers and providers involved in day-to-day practice to be aware of the issues in border communities.

- Offer more funding opportunities for clinicians working on the border.

- Work with border residency programs to increase funding for research training skills.

16. What types of forums are needed where health policy issues can be discussed in light of the latest research among key stakeholders, including public officials, health system leaders, and researchers?

- Most clinicians believe it is important to bring together key stakeholders to discuss the complex issues affecting the border. Meetings should include representatives from the community because the problems affecting the border region are huge. However, most clinicians have not seen any forum or meeting that brings together these stakeholders, and believe it would be very difficult to do.

- One clinician remembered a diabetes symposium organized in South Tucson with community leaders, city council members, university faculty, and clinicians. They invited community people to talk about their concerns in relation to this disease, eliciting com-

ments such as, "I need to exercise, but there are no safe places to walk in my neighborhood." Public officials listened and talked about approaches to improve neighborhood conditions. It is very important to bring together the people responsible for making decisions with the communities. This is how change happens.

- Some clinicians believed that issues such as access to health care/insurance, chronic disease, and pain management should be discussed, and policies developed with funding attached.

Training and Education Questions:

17. Who are the critical team members in your practice for patient education? Nurses? *Promotoras*? Pharmacists? Community leaders?

- Clinicians listed certified diabetes educators, family practice doctors, *promotoras*, nurses and nurse practitioners, pharmacists, community leaders and health representatives, dietitians/nutritionists, exercise physiologists, behavioral health professionals, alternative medicine practitioners, dental assistants, dental hygienists, and medical assistants — basically anyone who interacts with patients and patients trust.

18. What would be the ideal way for you to receive new updates on evidence-based practice?

- The Internet, continuing education, border conferences, workshops, video streaming, and telemedicine were selected.

19. What would be the ideal way for you to learn about new practice standards?

- Visiting model clinics, hearing about model practice standards, taking an interdisciplinary departmental approach, networking with other clinics, attending workshops, and receiving updates on informatics or information technology were selected as ideal ways to learn new practice standards.

20. In general, when is it convenient for you to participate in continuing education? (Please check only one)

- May and June were selected as the best months for participation in CE.

21. Which day of the week and time is more convenient for you to participate in continuing education or access health information? (Please check only one in each column)

- Wednesday and lunchtime (noon-2 p.m.)

Comfort With and Access to Technology Questions

22. What is your comfort level with the following technology?

	Comfortable	Need help	Not at all
E-mail	19		
PDA/Smart phone	15	2	2
Subscription News Service (e.g. Listserv, RSS)	14	2	2
Online network (e.g. LinkedIn, Facebook)	11	6	2
Instant Messaging (e.g. AIM, Yahoo Messenger)	13	4	2
Web search engine (e.g. Google, Ask.com)	17	2	
Specialized online info (e.g. Up To Date, Pub Med)	16	3	
Online professional reading (e.g. e-journals)	16	3	
Online learning (e.g. tutorials, webinars)	15	4	
Electronic Medical Records	16	2	1

23. What type of barriers impact your ability to access this information and to what degree?

	No Barrier	Some Barrier	Moderate Barrier	High Barrier
Location remoteness	12	3	2	2
Cost	2	8	4	5
Date/Time	2	10	5	2
Professional Duties		9	6	4
Personal Duties		13	2	4
Other:				

Ten broad themes emerged during the focus group session:

- Evidence-based practice is perceived as an ideal.

- Border clinicians recognize the importance of critically appraising research for its relevance to patients in the border region.

- Cultural differences, poverty, and patients' low health literacy are significant challenges for clinical care in the border region.

- Access to pharmaceuticals in Mexico has an impact on border clinicians' standards of practice.

- Time is a more significant constraint than access to information resources.

- Clinicians are challenged by the frequency of changes in research-based information.

- Having an academic affiliation enhances access to new clinical information.

- Information about complementary and alternative medicine (CAM) is relevant to clinical practice in the border region.

- Information from Mexico and other international sources is used on a limited basis.

- There is a need for more CME events specifically addressing border health issues.

Final Recommendations

- The U.S.-Mexico border region is an undeniably unique demographic area where the "developed" and "developing" worlds unite along a 2,000-mile international border. Although government policy and physical barriers might influence the fluidity of human movement across this politically delineated border, many issues do not respect such bounds. One of those issues is health — the necessity for care and the inherent challenges in fulfilling that need.

- The U.S.-Mexico border region is a geographic area with different cultural, socioeconomic, demographic, and epidemiologic characteristics than the rest of the nation. People living in the border region are also affected by tremendous disparities in economic well-being, access to health care services, and availability of public health care infrastructure and manpower. More research studies are needed on health problems affecting the U.S.-Mexico border region. These should be research studies that are conducted in border communities, with people living on the border, and by border academics and clinicians.

- The growth rates of border counties and municipalities exceed their state and national averages as people move northward through Mexico seeking opportunities to improve their standards of living. The high rates of transmigration to and through this region represent a large percentage of the total U.S.-Mexico border population, and pose serious concerns and challenges in terms of public health. Millions of people cross the border legally and illegally each month. Along with these crossings, illnesses affect family members, friends, and strangers on either side of the border.

- Understanding public health concerns in a binational and multicultural context, and developing collaborative and responsive research and partnerships, represents the most viable option for long-term efforts to improve the health of people living in California/Baja California and other border regions. More research efforts are needed along the border to enhance understanding of what works best and under what circumstances. Also, more research funding is needed to support local physicians as principal and sub-investigators. Additional work is needed that brings together clinicians from both sides of the border to share lessons learned.

- Develop community-based interventions and health education materials that take into account the culture and language spoken at the border, the health literacy levels of people living in the border region, and the diet and lifestyle of border communities. Materials and community-based approaches to prevention and interventions that reflect the Mexican-American people, traditions and values are urgently needed. Mexican colleagues can assist in the design and development of these materials and interventions.

- An entity should be created that is responsible for staying up to date with research on the problems affecting border communities such as diabetes, hypertension, obesity, and depression. This should be a trustworthy source of information (like a university), staffed

by people who live on the border, understand the problems affecting the region, and are familiar with the health care system and resources available at the border. This entity should also be responsible for identifying interventions and approaches that have been proven to be effective on border communities (model programs). The entity also should be responsible for disseminating new evidence-based recommendations to change clinical practice, and should share information about model programs. Online technologies, such as Listservs, Web sites, and webinars, should be used to disseminate this information among clinicians and other health care professionals working in border communities.

- All members of the health team, including clinicians, public health nurses, *promotoras*, diabetes educators, community health representatives, health educators, and dental assistants, should be involved in the dissemination and implementation of new evidence-based information.

- Diverse public health entities should collaborate and organize an annual border health conference that brings together border health clinicians, and other key stakeholders, to discuss the health problems affecting the region, and to share information on effective models, research studies, and interventions that work to improve the health and well-being of the people living on the border.

- Patient education programs should be funded at the community level, managed by community clinicians, and executed by community health workers (*promotoras*). This type of program would address the problems of health literacy, cultural differences, and socioeconomic stresses.

State Meeting Summaries

Guiding questions:

1. **What lessons were learned from the White Paper and panel presentation?**

2. **What information was validated? What was new information?**

3. **How can evidence-based information be translated into clinical practice? How can clinical practice inform research?**

Summary of Arizona State Meeting

Facilitator: Ana María López, MD, MPH, FACP, University of Arizona
Recorder: Jennifer Potter, MA, University of Arizona
Participants: Don Proulx, MEd, Annabelle V. Nuñez, MA, Derek Rowen, PharmD, Marisa Soto-Rowen, PharmD, Howard Eng, DrPH, Yuko Konishi, Jill G. De Zapien, Cecilia Rosales, MD, MS, Jeanette Ryan, MSLS, Linda Don, MEd, Jennifer Potter, MA, Ana Maria Lopez, MD, MPH, Michelle Mellen, Oscar Beita, MD, MPH

The White Paper and the panelists highlighted the importance of teleconferencing, videoconferencing, and telemedicine as tools to improve communication among clinicians and provide medical care for patients in rural, medically underserved communities. One of the meeting participants, for example, works in a clinic that has more than 15 sites around the city of Tucson. The clinicians use teleconferencing on a weekly basis to meet with other providers, discuss new clinic procedures, learn about new medications, etc. They record these meetings because often clinicians are not there to participate, as they are with patients and don't have time. For some clinicians, it's difficult to find time to attend continuing education sessions; they only have time after hours or during lunch.

Grand rounds are another excellent opportunity to disseminate evidence-based information and guidelines. They help educate all providers and staff. Recently, for example, the director of the health department came to speak about the H1N1 virus outbreak. Other methods used at this clinic are a provider-based journal club and meetings of providers working in the same clinic site. Telemedicine is usually an excellent tool for clinics located in rural areas, Indian reservations, and border communities. Clinics and rural hospitals don't have easy access to specialists. This technology saves time for clinicians and patients, and helps them avoid unnecessary referrals and traveling. The Electronic Medical Record (EMR) is another excellent tool to improve quality of care. The software used in some clinics allows providers to print patient education information on multiple conditions such as diabetes, hypertension and hypercholesterolemia.

Some clinicians are not ready to implement EMR. They need incentives. In some clinics EMR initially affected productivity. It took clinicians a long time to understand and use new software efficiently. Patient access to providers was significantly impacted for a while. Physicians who adopted the technology earlier were temporarily penalized. In a certain clinic there are still some doctors who refuse to use this technology after almost a year.

This technology (EMR) has a lot of benefits. Providers have the list of medications at their fingertips, the EMR program reminds them to order lab exams, and they can share patient information with other clinicians. In the long run, EMR may be better and more efficient, and it does improve the quality of care.

The White Paper is a call to work together to improve the overall health, the well-being, of people living in border communities. The problems along the border are so huge, and they affect all facets of live. Communities along the border are affected by shortages of health professionals, lack of health insurance, language and cultural barriers, low literacy levels, low socioeconomic status (SES), poor education, etc. The unit of analysis may be incorrect. The discussion should take into account community health, not only enhancing access to evidence-based information for clinicians. Professionals from other disciplines need to be involved, including nurses, *promotoras*, social workers, and public health professionals. Furthermore, involvement of other entities such as city council members, the business community, etc. is needed. All parties involved at the community level, all the stakeholders who have an impact, and everyone responsible for caring for the community needs to be brought together.

The White Paper doesn't address the type of research that is needed. Priorities must be developed. The White Paper is also missing a systems approach. Root causes of the health issues affecting border communities must be known. All stakeholders working in the border region—health care providers, health administrators, librarians, community-based organizations, local public officials, and their counterparts on the Mexican side—should be involved. Border-wide coalitions of all agencies and professionals with responsibility for and interest in improving the well-being of border residents should be created.

But people also need to change. How do providers change in conjunction with others? Providers should get out of their academic and professional "silos" and work together.

The COE Consortium is a powerful tool for making collaborative recommendations to HRSA and the federal government about health priorities for the border area. The funding from the federal government should emphasize collaboration, networking, and coalition building at the local and border-wide level. Research needs to be conducted to answer questions such as: Are Electronic Medical Records going to improve the health of the community?, What is the impact of practice guidelines on the health of border communities?, Are guidelines rated according to their potential impact on the population's health?, and What is the impact of guidelines on practitioners?

Practice guidelines come from a variety of professional organizations. For some conditions such as hypertension, there are three or four clinical practice guidelines telling clinicians what to do. For some practitioners, it is difficult to choose. Guidelines, such as those concerning

vaccinations, should be graded. Practitioners' voices also need to be heard in the process of developing clinical practice guidelines. Guidelines need to be contextualized; otherwise they are not meaningful. Guidelines need to be "translated" to address the limited resources available to care for patients in the border region. Patient information needs to be translated into Spanish and adapted to patients' language, culture, and literacy level.

There is an experience in a clinic in the Yuma area where clinicians became involved in a process to assess and change clinic procedures for managing diabetic patients. Two researchers from the University of Arizona guided the process. Basically, clinicians at this clinic had a series of meetings to review procedures to care for diabetic patients in light of the Diabetes Clinical Practice Guidelines. They identified gaps. They also identified the recommendations that could be implemented in their clinic with the human and material resources they had available. The process was successful in changing diabetes patient management practices and in improving patient outcomes.

The creation of partnerships and coalitions to care for patients with multiple problems (for example, a diabetic patient who lost his job and is homeless), also necessitates the need to change the care model to a patient-centered approach. In other words, clinicians need to work directly with other individuals in the community: employment agencies, *promotoras*, social workers, nurse educators, etc., to provide a comprehensive intervention for these patients. There needs to be a team approach to care for patients with chronic conditions.

The team approach is a great model, but if it's not contextualized to the border region, to the resources in each particular community, it is meaningless. No one size fits all. There probably needs to be a series of guidelines to approach any issue, to guide thinking in clinics and communities with different levels of resources, and for different cultural backgrounds.

The voice of the patient needs to be heard—what are the barriers to care from the patient perspective? What are barriers for implementing the lifestyle changes recommended in clinical practice guidelines?

So how can this leap be made? How can this change to a community-based, patient-centered, team care be approached? The Joint Commission (JC) is the main entity that sets standards for health care organizations. However, not everyone follows JC standards. For example, some critical access hospitals along the U.S.-Mexico border, which are common in rural and border communities, may not necessarily follow the JC standards. In Arizona critical access hospitals (CAH) are basically State-legislated, and it is easier for the CAHs because it is less expensive. There also needs to be inclusion of public entities, such as businesses and public agencies that pay for health care, within the community-based, patient-centered team care approach.

Financial incentives and reimbursement incentives to motivate clinics to change their therapeutic approach can also be used.

These ideas for change seem overwhelming; there needs to be research to find out what would work in each setting. Community Health Centers along the border should conduct re-

views to identify what works for them out of a series of guidelines. Performance measures are needed because performance and compliance should go hand in hand.

Clinicians and patients can learn a lot from "model patients." For example, why don't patients use services, and why don't they follow recommendations? Patients may not care about some things providers think are important. They may have other priorities, such as finding a job or using money to buy food instead of joining a gym to exercise. Providers need to find out what patients understand. Health literacy is an integral component of understanding patients needs and conveying health care messages. Practice should inform the application of guidelines in clinical settings. Practice in theory should detail what can actually be implemented based on local resources.

Even though there is tons of information on the Internet, etc., what are ways to help patients sort through medical information? What are all the factors influencing patient behavior? In other words, how can providers be assisted to understand what patients think, how they process information, and what their view is of medical information? One of the meeting participants said she conducted focus groups with patients and found out that they are especially able to articulate the problems they faced.

Another meeting participant suggested the use of social marketing, the K-12 education system, health literacy trainings in hospitals, etc., to improve health literacy in border communities. Another example of promoting health literacy was through the use of information guides, *promotoras* in public libraries, and information in food stores and in Wal-Mart. Community Health Workers (CHW's) should be seen and treated as members of a healthcare team; efforts to evaluate the impact of CHW's on patient care should be made, especially on the border where CHW's (promotoras) are highly utilized. University students could also help to conduct qualitative research and constantly monitor/assess how people use patient education materials. Education on pharmaceutical advertisements is also very important.

There is a disconnection between students and faculty regarding the use of new technology. This may be because of intergenerational differences in ways students learn and faculty educate. Health professions schools curricula may not be incorporating the technology that students are currently using.

Clinicians increasingly tend to be on "information overload". They are receiving information on new medications and approaches through "filters" such as Uptodate.com, Epocrates, and other information dissemination technologies. This may have alarming implications because clinicians that use such filter technology may not often check back to primary information sources and read the original articles. Clinicians should take the time to review and observe what actually works. The question is do they have the time?

Summary of California State Meeting

Facilitator: Katherine Flores, MD, University of California, San Francisco, Fresno
Recorder: Kendra Brandstein, MPH, MSW, PhD student, University of California, San Diego/ San Diego State University

Participants: Gabrielle Cerda, UCSD; Larry Clandio; Veronica Vajallas, SDSU Nursing School; Greg Talavera, MD, UCSD/SDSU; Bill Stanton, MD, Scripps Health; Elizabeth Woo, HRSA Representative
Maria Zuniga, UCSD, Associate Professor; Fernando Mendoza, MD, Stanford University; Lourdes Rivera, UCSD Evaluation Specialist; Stacey Delmar, UCSD; Ethel Regis Lu, CRCHD, UCSD; Amy Elizondo

The meeting started with introductions and welcome. Dr. Flores presented a brief overview of the White Paper as an opportunity to do a survey of physicians along US.-Mexico border. The three guiding questions that were of focus included:

1. What was learned from the White Paper or WP panel presentations?
2. What information was validated and what was new information?
3. How can clinical practice inform research? How can evidence-based research be translated into clinical practice?

There was much discussion on these issues by the California group. The following comments were shared:

San Ysidro Health Center in the border region has 9 centers; the growth of these centers has exceeded the capacity to disseminate evidence-based practice. Webinars and technology needs are what the centers are looking at in order to best disseminate the latest information. This would be an excellent way to bring physicians together. Technology meetings would share lessons learned.

This would be a way to get doctors together on a 30-minute lunch break, which is the time they have to garner new information as a group. Some of the topics might include what physicians have taught from their experiences with Latino patients—children, alternative medicine, etc. One provider suggested that one focus could be on physicians' experiences with patients and how this changes their thoughts and perceptions and practices. The reality is that physician personal accounts and experiences are not in the literature.

The suggestion was also made to explore opportunities for moving data into more complex data systems. It is important to explore HRSA support for more sophisticated analysis tools.

Another provider shared that there is a great opportunity at Scripps Health in the border region to review cancer registry data related to cancer and outcomes. The database on cancer is extremely well developed. Also, it may be important to find some way to archive the clinical database, to use the database to create questions to answer and capture what is being learned from patients on the border. That information could be archived for future use.

A question was raised: Are randomized controlled trials really the best way to study evidence-based data? Creativity is limited. An example of pulmonary critical care research was brought up and was noted to be challenging.

Electronic Medical Records technology was discussed. It was felt that it is taking more time away from patient care.

There is a need for a border database/registry. Evidence-based decision making is critical. A database enabling a practitioner to learn from what he is doing would be critical; this type of database would be different from evidence-based medicine and evidence-based practice, which entail learning from past behavior. However, one concern is that providers might spend too much time at the computer entering information, rather than at the bedside with the patient. System improvements are needed to assure that this doesn't happen. More accurate data is needed (with a large amount of data going into the system, there is a need to make sure it is accurate). This extensive database would be a great resource. There are tons of evidence-based guidelines that are not being followed. The issue is not so much evidence-based practice, but rather it is providing the knowledge and the transfer of knowledge.

Another provider shared that there is enough evidence-based information available, but guidelines are not followed well and as such, this leads to lack of evidence-based practice. This lack of evidence-based practice may stem from "turf" issues around sharing evidence-based data and collaboration, especially since computers are a readily available tool for gathering evidence-based information. Information needs to flow among physicians for them to understand the processes better. There needs to be an understanding that health care providers are doing great work along the border. There should be a focus on patient-centered care, transfer of knowledge, and communication, and breaking down those barriers that limit communication. An example of a communication barrier would be of two EMR systems that do not collaborate. An example of an impending barrier to the transfer of knowledge is the PAHO Education Foundation, which has money for translating English medical textbooks and for selling these translated books in Latin America, that is facing a trend of increasing electronic

media and a decreased demand for print media? How does research information efficiently cross the border to the U.S., and vice versa?

Another comment was made about "research arrogance," and an example centered on the question of teaching bioethics in Tijuana. The researchers were using a model from Uganda rather than what already exists in Mexico. Research arrogance can be a problem; although resources from a high quality research outside the U.S. is available, research from certain countries may be considered inferior. How can these the barriers to research be broken for the border? It is important to let researchers know that resources do exist and that they do not need to go elsewhere to get the information/data.

What is the best practice model for sharing information across languages? More information may be shared with English-speaking European countries than with Mexico due to language barriers. There appears to be a delay in the understanding of changing demographics within the U.S. A practice model for sharing is needed. Thinking of environment and culture is critical and, in order to do this, collaboration across disciplines needs to happen.

The next comment was that it is necessary to narrow broad discussions and define the "universe" so the working group may make recommendations. It is important to focus on the main issues in terms of geography, disease specificity, etc. The group should explore lessons learned in BIDS—the Binational Infectious Disease Program— in which U.S. and Mexico data are merged on a large scale.

Data collection needs to happen on both sides of the border, a participant noted. There is an opportunity to collect clinical data on Latinos and Whites in the office, especially data on practice patterns. In Baja California, are any diseases reportable by law or statute? HIV is reportable by law in Baja California. Is there a cancer registry? What about mandatory data on reportable diseases that go into the registry for Mexico as a whole (Mexico City is where data go)? That database is not accessible and reports are produced at the municipal level. Data on individual patients or small groups may not be available to researchers but may be available in aggregate; data are controlled very tightly.

Data are being collected on both sides of the border, but it is challenging to have access to it all. There are system issues in Mexico—doing any research along the border requires the investigator to go through Mexico City. It has taken years to work toward collaboration of universities across the border, and many obstacles to this type of collaboration remain.

BIDS infectious disease surveillance data represent a great success story. It is important to focus research in terms of geographic, disease and specificity, and programmatic issues. The

National Institutes of Health (NIH) is starting to recognize the importance of binational work. Culturally competent evidence-based practice is the idea now. Should there be standards created to find Evidence-Based (EB) Level 1 data? Age groups require different information about cancer because of different views of cancer. Standardization of culturally relevant information of clinical trials is needed.

A participant asked if there are any diseases reportable by law in Mexico. Collecting and archiving data electronically would be a good start on research informing clinical practice, but data must be accurate. Paid data collectors who can collect data, check for accuracy, and have internal controls for the data may be useful. Health care providers may be too tired after other duties to collect data, therefore people whose sole duty is to collect data may be best to do it. Emergency preparedness translation systems were a disaster—watch translations.

Diseases are reportable in Baja and there is a centralized repository, a participant said. This information is entered but not accessible. HIV and cancer data are being collected. These data are only available as aggregate rather than individual. Data are much protected.

To encourage dissemination, researchers should facilitate information among providers. Collaborations among providers are necessary; when providers talk to each other, information dissemination naturally happens. What is the best way to facilitate that in a Community Health Clinic setting? Question-and-answer sessions have seemed to be the best, but in large systems this is not feasible. Even webinars are not that feasible, as doctors may be distracted. Face-to-face interactions seem best for communication, but evidence-based practice (EBP) will be standardized through the computer, whether this is best or not. EBP will continue to grow. The basic question is how to start empowering Latino families to take on their own care and advocate for their own care. Are the families passive? Or are there other existing barriers to maintaining their own health care? If this assumption is wrong, there needs to be more research to find out what is happening.

The U.S.-Mexico Border Health Commission has a research work group and this may be an opportunity to foster more collaboration and to possibly model research after the BIDS program and pick a smaller topic.

It was suggested that exploration of cervical cancer along the border is very critical to public health.

Summary of Comments

Research must include cultural focus in evidence-based practice.

There are multiple research opportunities at Scripps Mercy Hospital Chula Vista.

A definition of culturally relevant RCT (randomized controlled trials) should be developed. For example, a topic on BMI (body mass index) does not mean much. In the case of a 45-pound, 18-month-old child, one has to ask , who was feeding this baby? In some populations, loving the baby, translates into a cultural belief that healthy means, "a chunky baby" , overfeeding the child.   Therefore understanding cultural issues and including cultural relevancy in the development of a definition for RCTs are important if a clinician is going to impact the care of such a child.

How can clinical practice inform research?   Paid data collectors are needed to gather information from clinicians. Internal controls are needed to do this.

The Internet and translation are opportunities to get information from Spanish-written journals.

Reinforce evidence-based practices. Facilitating information among clinicians happens naturally at meetings.

Large clinics bring physicians together at webinars.

Technology will help with this issue.

The *promotora* system and strong family connectivity are so important for access to care and helping communication between providers and the system. The *promotora* system is great; empowering families and patients, and empowering the person is the safest and most effective tool in health care. One of the presenters talked about forming Wikis, which may be a way to bring providers together, and Twitter, to send out messages about articles and information on new best practices that are specific to Latinos and border health.

How is the information best disseminated? In addition to Twitter, group participants mentioned phone text messages about border health and providers. There is a lot to learn from the younger generation when it involves technology. When something is really important to them, they are sharing that information in seconds with everyone else and are participating in forums where questions can be posted and anyone can post and answer. The problem is someone needs to take the lead and start the network, then invite people; most likely it will be the younger generation that starts this.

It is highly improbable every physician practice will change in the immediate future; however, physicians that are leaders can be assisted so they may be more effective in mentoring the other practitioners in changing. Leadership is important, and leaders who want change and are committed to doing things better are needed. There needs to be an immediate focus on helping those physicians who want to change, not those who are resistant (at least not yet from the outset).

In Community Health Centers and private physician offices, are there incentives for providers to do more with evidence-based practice?

Quality management programs should be more closely explored, including audits with physicians and exchange of information. There is a natural connection between physicians who practice in close proximity to each other. Health Plan Employer Data and Information Set (HEDIS) indicators may help push physicians in this direction. There needs to be an implementation of practice guidelines and providers should be encouraged to use them. As for Community Health Centers, are there incentives for providers who follow the guidelines and disincentives for those who don't? There are financial incentives to meet HEDIS indicators (through HMOs) and there are audits on health information; there is a subtle exchange of information that occurs when patient records are shared; HRSA has quality indicators that are company defined; and quality assurance motivates adherence to guidelines.

There should be a menu of strategies in working with Latinos, as they are a varied group. For example, third-generation Latinos may not want to work with *promotoras*.

CHC Practice Guidelines need to be adapted depending on an area's patient population.

When an obese child comes to the clinic, education includes:
- Parent-child communication
- Image—a fat child is not a healthy child
- Food sources
- Then nutrition information

A clinician must address other problems and convince the parents there is a problem, before addressing nutrition.

Calling it evidence-based practice can be deceptive, since most practices are not based on actual evidence. The gold standard for evidence is a randomized clinical trial.

Evidence-based must be defined. The language used conveys something different to different people, and this needs to be clarified.

Culturally competent evidence-based practice is needed.

Recommendations:
 How can evidence-based research be translated into clinical practices?

1) Dissemination of clinical information into practices by:

   Evidence-based research
   Webinars
   Technologic meetings
   Twitter
   Wiki

   **Focus on the lead providers in a group practice or Community Health Center

2) Improved communication between providers (break down silos)

3) Need better access to research from Mexican researchers

   Medical librarians need to talk to each other across the border.

4) Model the American Evaluation Association (AEA) as possible strategy for dissemination and communication (Linkden group)

5) Need to focus and narrow what to study and how to share

How can clinical practice inform research?

   Cancer registry
   Diabetes collaborative
   Databases in Mexico (restricted use is a barrier)
   Funding to pay for data collectors
   Define evidence-based in light of cultural issues and diversity of Latinos
   Assure that Latinos are included
   Define standards for evidence-based

Summary of New Mexico State Meeting

Facilitator: Lisa Cacari Stone, PhD, Assistant Professor, Department of Family and Community Medicine & Robert Wood Johnson Center for Health Policy, University of New Mexico Health Sciences Center

Recorder: Margarita Chavez, University of New Mexico, and Delana Marie Gonzales, University of New Mexico

Present: Ethel Saryee, Barbara Nail-Chiwetalu, Olga Hernandez, Rebecca Palacios, Jacob Nevarez, Charles T. Kozel, Conchita Paz, Lisa Cacari Stone, Delana Marie Gonzales, Margarita Chavez, Paul Dulin, Sandra Gonzalez, Amy Ramirez

Key Themes

The state participants were invited to identify and discuss how research is communicated into the health professional services field and how those in the field communicate their needs to researchers. The following themes emerged as 13 state participants shared what impressed them the most about the border research forum and border consortium and discussed the three questions posed above.

Building Bridges: Binationally and Between Evidence and Practice. The group saw a need for conducting and/or reporting binational investigations. Participants said there is a lack of discussion on how to bridge the divide between the United States and Mexico. Research has been conducted on both sides of the border to set priorities for health. However, there is lack of agreement on what those priorities really are. There is a need to move away from the fragmentation along the border and move toward continuous commitment to border health with both governments. Overall, the New Mexico state participants suggested that forming bridges between the health research and practice communities would be the key to forging binational relationships, encouraging transmobility, and truly impacting the community. One faculty researcher at New Mexico State explained further: "I have been working in perinatal health along the border for 19 years and we are still problem-focused. There is research on both sides of the border but a lack of agreement on what are joint priorities; there could be more community-based models."

Next, participants discussed the need to go back to the foundation of the questions posed by the forum. "What is the paradigm we are using to address evidence and practice?" The

biggest problem is primary health care and rural clinics. What and for whom should research affect?

In looking for solutions to how to effectively and practically bridge or translate research to clinical practice, one participant asked, "Why is our research not driven by the health services model?" If research is driven by examining the health care model, a link may be created between these two worlds. Clinicians can help to define needed research. Research needs to be designed by practitioners such as community allied health workers. Focus groups can act as a mode to transfer information from the top down and bottom up.

Communication. A second main theme focused on communications. The group's sentiment was that the sharing of information is crucial. One participant felt that there is no communication because "we work in our own circles". The richness of knowledge gathered by researchers is not "making its way back down" or being translated to the health systems, case managers, health care workers and others in the front lines of medicine and social services. Many participants discussed that there was little connection between the health care workers and the researchers. The concerns of the health care workers needs to be communicated all the way back up to the higher levels and vice versa. This communication gap between "higher" and "lower" levels is of utmost importance and concern. One participant stated it was a "disconnect between people doing the research and those doing the work."

Another sub-theme discussed under "communication" was the need for better communication across all levels within the border health profession. A systems approach may facilitate communication between and within programs, as well as among individuals at all levels of the process. Utilizing a feedback loop to assess and evaluate existing programs could lead to designing more effective programs that are client-based while at the same time rooted in sound research. This same feedback loop may facilitate communication from the national level all the way to the client level. Participants expressed that both research and practice are critical and equally important.

Both a *promotora* and a researcher expanded on this, saying that "clinicians claim that people don't understand our clients here on the border because they need to be understood on a more personal level." So, every patient becomes a project when one has to figure out the richness of knowledge that people hold, culturally and personally. Thus, it's important to return to cultural and social roots and for clinicians to pay attention to nuances in communicating. This is essential to helping clinicians better understand their patients. Again, this discussion focused on the need for a more effective communications model. The *promotora* system was discussed by the group as a valuable asset in the clinical care and health systems settings. These liaisons serve both the patients and the practitioners.

Other areas discussed in the state meeting included the need for the integration of funding, more evaluation of programs to create the evidence of what works, and the need to address violence and immigration along the border.

Funding. Integration of funding across state lines was also mentioned. While the U.S. is advanced in so many ways, it lacks the political will to make changes and invest resources to the border. There was also a common perception among the group that research is driven by what is funded versus impending issues and client needs.

Evaluation. Evaluation of programs was also a concern along this line of thought. The view was, "Why are we implementing our programs with no evaluation? The evaluation can inform us on how we can improve our programs."

Violence. One expressed area of concern was the amount of violence on the border and how little this was addressed in the research and border consortium. This is a major issue in today's society and needs to be addressed on a clinical and research level.

Immigration. Finally, the high number of undocumented persons across New Mexico was of great concern. High levels of migration and immigration impact public health in every aspect and need to be analyzed in order to find a solution to the problem.

Key Recommendations
The participants made four key recommendations as a way to improve the interface between research and clinical practice.

Build Bridges
- Forming bridges between the health research and practice communities would be the key to forging binational relationships, encouraging transmobility, and truly impacting the community.
- Move away from the fragmentation along the border and move toward continuous commitment to border health with both governments.
- Set joint research priorities using more community-based models.

Link Research and Practice
- Drive research by the health services model and include practitioners such as community allied health workers.
- Use focus groups as a mode to transfer information from the top down and bottom up.
- Connect the people doing the research and those doing the work

- Utilize a feedback loop to assess and evaluate existing programs as a way to design more effective programs that are client-based while at the same time rooted in sound research.

Improve Communication
- Clinicians need to pay attention to the cultural and social nuances in communicating with their patients.
- Use *promotoras* as a way to foster better communication between clinicians and practitioners.

Other
- Integrate funding across state and country borders.
- Invest in and implement more program evaluations to create the evidence of what works.
- Address violence and immigration along the border in the research and clinical enterprise.

Summary of Texas State Meeting

Facilitators: Teresa M. Hines, MPH, and Charles Miller, PhD
Recorders: Cindy Camarillo and Loretta Flores

Each of the two groups conducted discussions that followed up on the White Paper and integrated numerous topics covered during the course of the two days' activities. The following basic themes were derived as potential areas for further research and/or evaluation:

1. Do guidelines effectively translate evidence into clinical practice, and are these guide-line-based models the most appropriate techniques for managing the health of patients?

2. Flexibility of guidelines was viewed as being important, but *are* they flexible?

3. Are guidelines communicated and disseminated effectively in clinical practice, and how does this impact community adoption of management plans?

4. Does availability of resources drive implementation of evidence-based guidelines?

Discussion:
The practice of evidence-based medicine is largely impacted by resources, understanding of guidelines, and acceptance by physicians. However, the question was raised as to whether local professional societies and institutions could facilitate this process. There are no systems in place in which to educate physicians other than the usual journals, professional meetings, and continuing medical education events. This may result in not enough time being taken to fully understand the implications of implementing the guidelines. Further, community multidisciplinary wellness programs are likely to be as important as evidence-based practice guidelines for population-level disease control.

There needs to be more of a defined relationship between research and the guidelines implemented. It was argued that much attention has been paid to the social aspects, but not bench research issues. There is a need to connect clinicians more directly to basic scientist researchers, whereby the silo effect will be minimized. Additionally, others recommended less-structured relationships. MOUs in themselves do not create collaboration, but rather research collaborations are based on personal contacts, personality, and the willingness of individuals to work together.

Addressing the second concern (Are guidelines the most appropriate method for imple-menting patient care?), both groups came to the same conclusion. It is that the term "guidelines" is just that: they are guidelines, generally effective, but are not necessarily always appropriate. Care should therefore be patient specific, not guideline specific. Delivery of care has to become more transparent for good patient outcomes.
Lastly, does CME credit mean that a physician is really practicing good medicine and is current and up to date regarding evidence-based medicine? Some suggested that peer review would serve this purpose better.

5. On the border, where does the responsibility lie for information dissemination, including the maintaining of a database of current research being done?

6. How do we keep from developing research and practice silos?

Discussion:
There is so much research being done along the border, yet there is no one entity that a person can access to find out this information. Where should this be housed and what resources are available to facilitate this effort? Great concern was voiced about how to identify potential collaborators for addressing major health concerns, the lack of human capital, constraints on binational research, consensus of foci on both sides of the border, and regulatory barriers to the conduct of binational research.

As stated above, there is a disconnect between scientists and clinicians. Should this become a research protocol, especially on the border? Ownership of information needs to be less important, and an investment must be made soon to create a complementary approach to research and information dissemination.

Other themes touched on as part of these group discussions that are intertwined and just as important were: 1) how to continue to enhance human capacity, developing both physicians, other health professionals, and scientists; 2) the role electronic medical records can play in evidence-based medicine; and 3) as conversations and discussions continue, broadening the participants to include administrators of clinics, educators, and the economic community (social networking resources).

Bibliography

Jacobson, LD, Edwards, AGK, Granier, SK, Butler, CC, Evidence-based medicine and general practice, BRITISH JOURNAL OF GENERAL PRACTICE

Evidence-based medicine (EBM) aids clinical decision making in all fields of medicine, including primary care. General practice is characterized by particular emphasis on the doctor-patient relationship and on biomedical, personal, and contextual perspectives in diagnosis. Most evidence available to general practitioners (GPs) addresses only the biomedical perspective and is often not directly applicable to primary care, as it derives from secondary or tertiary care. Emphasis on the biomedical domain and the randomized controlled trial (RCT) alone reflects a reductionist approach that fails to do justice to the philosophy of general practice. The art of medicine is founded on context, anecdote, patient stories of illness, and personal experience, and this should continue to be blended with good quality and appropriate research findings in patient care. JUL, 1997

Walshe, K, Rundall, TG, Evidence-based management: From theory to practice in health care, MILBANK QUARTERLY

The rise of evidence-based clinical practice in health care has caused some people to start questioning how health care managers and policymakers make decisions, and what role evidence plays in the process. Though managers and policymakers have been quick to encourage clinicians to adopt an evidence-based approach, they have been slower to apply the same ideas to their own practice. Yet, there is evidence that the same problems (of the underuse of effective interventions and the overuse of ineffective ones) are as widespread in health care management as they are in clinical practice. Because there are important differences between the culture, research base, and decision-making processes of clinicians and managers, the ideas of evidence-based practice, while relevant, need to be translated for management rather than simply transferred. The experience of the Center for Health Management Research (CHMR) is used to explore how to bring managers and researchers together and promote the use of evidence in managerial decision-making. However, health care funders, health care organizations, research funders, and academic centers need wider and more concerted action to promote the development of evidence-based managerial practice. 2001

Stetler, CB, Brunell, M, Giuliano, KK, Morsi, D, Prince, L, Newell-Stokes, V, Evidence-based practice and the role of nursing leadership, JOURNAL OF NURSING ADMINISTRATION

A new term, evidence-based practice, is beginning to appear both in the health care literature and at professional conferences. Its meaning, however, is not always clear, nor is its full implication for nurse administrators explained. This article provides a pragmatic definition of evidence-based practice developed in the nursing division at Baystate Medical Center, Springfield, Massachusetts. It outlines steps required to institutionalize evidence as a routine part of nursing practice and provides examples of its use. JUL-AUG, 1998

Greenhalgh, T, "Is my practice evidence-based?", BRITISH MEDICAL JOURNAL, 0959-8138, OCT 19, 1996

Burgers, JS, Grol, R, Klazinga, NS, Makela, M, Zaat, J, Agree Collaboration, Towards evidence-based clinical practice: an international survey of 18 clinical guideline programs, INTERNATIONAL JOURNAL FOR QUALITY IN HEALTH CARE

Objective: To describe systematically the structures and working methods of guideline programs.
Design: Descriptive survey using a questionnaire with 32 items based on a framework derived from the literature. Answers were tabulated and checked by participants. Study participants: Key informants of 18 prominent guideline organizations in the United States, Canada, Australia, New Zealand, and 9 European countries. Main outcome measures: History, aims, methodology, products and deliveries, implementation, evaluation, procedure for updating guidelines, and future plans.
Results: Most guideline programs were established to improve the quality and effectiveness of health care. Most use electronic databases to collect evidence and systematic reviews to analyze the evidence. Consensus procedures are used when evidence is lacking. All guidelines are reviewed before publication. Authorization is commonly used to endorse guidelines. All guidelines are furnished with tools for application and the Internet is widely used for dissemination. Implementation strategies vary among different organizations, with larger organizations leaving this to local organizations. Almost all have a quality assurance system for their programs. Half of the programs do not have formal update procedures.
Conclusions: Principles of evidence-based medicine dominate current guideline programs. Recent programs are benefiting from the methodology created by long-standing programs. Differences are found in the emphasis on dissemination and implementation, probably due to differences in health care systems and political and cultural factors. International collaboration should be encouraged to improve guideline methodology and to globalize the collection and analysis of evidence needed for guideline development. FEB, 2003

Dopson, S, FitzGerald, L, Ferlie, E, Gabbay, J, Locock, L, No magic targets! Changing clinical practice to become more evidence-based, SO HEALTH CARE MANAGEMENT REVIEW

This article focuses on the diffusion and adoption of innovations in clinical practice. The authors are specifically interested in under-researched questions concerning the latter stages of the creation, diffusion, and adoption of new knowledge, namely: What makes this information credible and therefore utilized? Why do actors decide to use new knowledge? And what is the significance of the social context of which actors are a part? 2002

Lohr, KN, Eleazer, K, Mauskopf, J, Health policy issues and applications for evidence-based medicine and clinical practice guidelines, HEALTH POLICY

Evidence-based medicine and clinical practice guidelines have become increasingly salient to the international health care community in the 1990s. Key issues in health policy in this period can be categorized as costs and access to care, quality of and satisfaction with care, accountability for value in health care, and public health and education. This paper presents a brief overview of evidence-based medicine and clinical practice guidelines and describes how they are likely to influence health policy. Evidence-based medicine focuses on the use of the best available clinical (efficacy) evidence to inform decisions about patient care; guidelines are statements systematically developed from efficacy and effectiveness research and provide clinical consensus for practitioners and patients to use in making decisions about appropriate care under different clinical circumstances. Both fields have developed methods for evaluating and synthesizing available evidence about the outcomes of alternative health care interventions. They have clear implications for health policy analysts: greater reliance should be placed on scientific evidence, policy decisions should be derived systematically, and health care decision-making must allow for the active participation of health care providers, policy makers, and patients or their advocates. The methods and information generated from evidence-based guidelines efforts are critical inputs into health policy analysis and decision-making. (C) 1998 Published by Elsevier Science Ireland Ltd. All rights reserved. OCT, 1998

Jette, DU, Bacon, K, Batty, C, Carlson, M, Ferland, A, Hemingway, RD, Hill, JC, Ogilvie, L, Volk, D, Evidence-based practice: Beliefs, attitudes, knowledge, and behaviors of physical therapists, PHYSICAL THERAPY

Background and Purpose: Little research has been done regarding the attitudes and behaviors of physical therapists relative to the use of evidence in practice. The purposes of this study were to describe the beliefs, attitudes, knowledge, and behaviors of physical therapist members of the American Physical Therapy Association (APTA) as they relate to evidence-based practice (EBP), and to generate hypotheses about the relationship between these attributes and personal and practice characteristics of the respondents.
Methods: A survey of a random sample of physical therapist members of APTA resulted in a 48.8% return rate and a sample of 488 that was fairly representative of the national membership. Participants completed a questionnaire designed to determine beliefs, attitudes, knowledge, and behaviors regarding EBP, as well as demographic information about themselves and their practice settings. Responses were summarized for each item, and logistic regression analyses were used to examine relationships among variables.
Results: Respondents agreed that the use of evidence in practice was necessary, that the literature was helpful in their practices, and that quality of patient care was better when evidence was used. Training, familiarity with and confidence in search strategies, use of databases, and critical appraisal tended to be associated with younger therapists with fewer years since they were licensed. Seventeen percent of the respondents stated they read fewer than 2 articles in a typical month, and one-quarter of the respondents stated they used literature in their clinical decision making less than twice per month. The majority of the respondents had access to on-line information, although more had access at home than at work. According to the respondents, the primary barrier to implementing EBP was lack of time.

Discussion and Conclusion: Physical therapists stated they had a positive attitude about EBP and were interested in learning or improving the skills necessary to implement EBP. They noted that they needed to increase the use of evidence in their daily practice. SEP, 2003

Mitchell, GJ, Evidence-based practice: Critique and alternative view, NURSING SCIENCE QUARTERLY, 0894-3184, JAN, 1999

Naylor, CD, Grey Zones Of Clinical-Practice - Some Limits To Evidence-Based Medicine SO LANCET SN 0099-5355 PD APR 1 PY 1995 VL 345 IS 8953 BP 840 EP 842 UT

Kitson, A, Harvey, G, McCormack, B, Enabling the implementation of evidence-based practice: a conceptual framework, QUALITY IN HEALTH CARE

The argument put forward in this paper is that successful implementation of research into practice is a function of the interplay of three core elements—the level and nature of the evidence, the context or environment into which the research is to be placed, and the method or way in which the process is facilitated. It also proposes that because current research is inconclusive as to which of these elements is most important in successful implementation, they all should have equal standing. This is contrary to the often implicit assumptions currently being generated within the clinical effectiveness agenda, where the level and rigor of the evidence seems to be the most important factor for consideration. The paper offers a conceptual framework that considers this imbalance, showing how it might work in clarifying some of the theoretical positions and as a checklist for staff to assess what they need to do to successfully implement research into practice. SEP, 1998

Haynes, B, Haines, A, Getting research findings into practice - Barriers and bridges to evidence-based clinical practice, BRITISH MEDICAL JOURNAL, JUL 25, 1998

Bates, DW, Kuperman, GJ, Wang, S, Gandhi, T, Kittler, A, Volk, L, Spurr, C, Khorasani, R, Tanasijevic, M, Middleton, B, Ten commandments for effective clinical decision support: Making the practice of evidence-based medicine a reality, JOURNAL OF THE AMERICAN MEDICAL INFORMATICS ASSOCIATION

While evidence-based medicine has increasingly broad-based support in health care, it remains difficult to get physicians to actually practice it. Across most domains in medicine, practice has lagged behind knowledge by at least several years. The authors believe that the key tools for closing this gap will be information systems that provide decision support to users at the time they make decisions, which should result in improved quality of care. Furthermore, providers make many errors, and clinical decision support can be useful for finding and preventing such errors. Over the last eight years, the authors have implemented and studied the

impact of decision support across a broad array of domains and have found a number of common elements important to success. The goal of this report is to discuss these lessons learned in the interest of informing the efforts of others working to make the practice of evidence-based medicine a reality. 1067-5027, NOV-DEC 2003, vol. 10, issue 6, 523-530, 10.1197/jamia.M1370, ISI: 000186529200002, J.

Haynes, RB, Devereaux, PJ, Guyatt, GH, Physicians' and patients' choices in evidence-based practice – Evidence does not make decisions, people do, BRITISH MEDICAL JOURNAL, 0959-535X, JUN 8, 2002, vol.324, issue 7350, 1350-1350, ISI:000176234100005, J

Gill, P, Dowell, AC, Neal, RD, Smith, N, Heywood, P, Wilson, AE, Evidence-based general practice: A retrospective study of interventions in one training practice, BRITISH MEDICAL JOURNAL

Objective: To estimate the proportion of interventions in general practice that are based on evidence from clinical trials and to assess the appropriateness of such an evaluation.
Design: Retrospective review of case notes.
Setting: One suburban training general practice.
Subjects: 122 consecutive doctor-patient consultations over two days. Main outcome measures: Proportions of interventions based on randomized controlled trials (from literature search with Medline, pharmaceutical databases, and standard textbooks), on convincing non-experimental evidence, and without substantial evidence.
Results: 21 of the 122 consultations recorded were excluded due to insufficient data; 31 of the interventions were based on randomized controlled trial evidence and 51 were based on convincing non-experimental evidence. Hence 82/101 (81%) of interventions were based on evidence meeting the criteria.
Conclusions: Most interventions within general practice are based on evidence from clinical trials, but the methods used in such trials may not be the most appropriate to apply to this setting. 0959-8138, MAR 30, 1996, vol. 312, issue 7034, 819-821, ISI: A1996UD37800026, C

Grol, R, Wensing, M, What drives change? Barriers to and incentives for achieving evidence-based practice, MEDICAL JOURNAL OF AUSTRALIA

To bridge the gap between scientific evidence and patient care, there needs to be an in-depth understanding of the barriers and incentives to achieving change in practice. Various theories and models for change point to a multitude of factors that may affect the successful implementation of evidence. However, the evidence for their value in the field is still limited. When planning complex changes in practice, potential barriers at various levels need to be addressed. Planning needs to take into account the nature of the innovation; characteristics of the professionals and patients involved; and the social, organizational, economic, and political context. 0025-729X, MAR 15, 2004, vol. 180, issue 6, Suppl. S, S57-S60, ISI: 000220559500007, J

Sim, I, Gorman, P, Greenes, RA, Haynes, RB, Kaplan, B, Lehmann, H, Tang, PC, Clinical decision support systems for the practice of evidence-based medicine
SO JOURNAL OF THE AMERICAN MEDICAL INFORMATICS ASSOCIATION

Background: The use of clinical decision support systems to facilitate the practice of evidence-based medicine promises to substantially improve health care quality.
Objective: To describe, on the basis of the proceedings of the Evidence and Decision Support track at the 2000 AMIA Spring Symposium, the research and policy challenges for capturing research and practice-based evidence in machine-interpretable repositories, and to present recommendations for accelerating the development and adoption of clinical decision support systems for evidence-based medicine.
Results: The recommendations fall into five broad areas—capture literature-based and practice-based evidence in machine-interpretable knowledge bases; develop maintainable technical and methodological foundations for computer-based decision support; evaluate the clinical effects and costs of clinical decision support systems and the ways clinical decision support systems affect and are affected by professional and organizational practices; identify and disseminate best practices for work flow-sensitive implementations of clinical decision support systems; and establish public policies that provide incentives for implementing clinical decision support systems to improve health care quality.
Conclusions: Although the promise of clinical decision support system-facilitated, evidence-based medicine is strong, substantial work remains to be done to realize the potential benefits.

Rycroft-Malone, J, Seers, K, Titchen, A, Harvey, G, Kitson, A, McCormack, B, What counts as evidence in evidence-based practice? JOURNAL OF ADVANCED NURSING

Background: Considerable financial and philosophical effort has been expended on the evidence-based practice agenda. Whilst few would disagree with the notion of delivering care based on information about what works, there remain significant challenges about what evidence is, and thus how practitioners use it in decision-making in the reality of clinical practice.
Aim: This paper continues the debate about the nature of evidence and argues for the use of a broader evidence base in the implementation of patient-centered care.
Discussion: Against a background of financial constraints, risk reduction, increased managerialism research evidence, and, more specifically, research about effectiveness have assumed pre-eminence. However, the practice of effective nursing, which is mediated through the contact and relationship between the individual practitioner and patient, can only be achieved by using several sources of evidence. This paper outlines the potential contribution of four types of evidence in the delivery of care, namely research, clinical experience, patient experience, and information from the local context. Fundamentally, drawing on these four sources of evidence will require the bringing together of two approaches to care: the external, scientific, and the internal, intuitive.
Conclusion: Having described the characteristics of a broader evidence base for practice, the challenge remains to ensure that each is as robust as possible, and that they are melded co-

herently and sensibly in the real time of practice. Some of the ideas presented in this paper challenge more traditional approaches to evidence-based practice. The delivery of effective, evidence-based, patient-centered care will only be realized when a broader definition of what counts as evidence is embraced. 0309-2402, JUL 2004, vol. 47, issue 1, 81-90, ISI: 000221738700010, J

Pravikoff, DS, Tanner, AB, Pierce, ST, Readiness of U.S. nurses for evidence-based practice, AMERICAN JOURNAL OF NURSING

Evidence-based practice is a systematic approach to problem solving for health care providers, including RNs, characterized by the use of the best evidence currently available for clinical decision making, in order to provide the most consistent and best possible care to patients. Are RNs in the United States prepared to engage in this process? This study examines nurses' perceptions of their access to tools with which to obtain evidence and whether they have the skills to do so. Using a stratified random sample of 3,000 RNs across the United States, 1,097 nurses (37%) responded to the 93-item questionnaire. Seven-hundred-sixty respondents (77% of those who were employed at the time of the survey) worked in clinical settings and are the focus of this article. Although these nurses acknowledge that they frequently need information for practice, they feel much more confident asking colleagues or peers and searching the Internet and World Wide Web than they do using bibliographic databases such as PubMed or CINAHL to find specific information. They don't understand or value research and have received little or no training in the use of tools that would help them find evidence on which to base their practice. Implications for nursing and nursing education are discussed. 0002-936X, SEP 2005, vol. 105, issue 9, 40-51, ISI: 000231689800027, J.

Rousseau, N, McColl, E, Newton, J, Grimshaw, J, Eccles, M, Practice-based, longitudinal, qualitative interview study of computerized evidence-based guidelines in primary care SO BRITISH MEDICAL JOURNAL

Objective: To understand the factors influencing the adoption of a computerized clinical decision support system for two chronic diseases in general practice.
Design: Practice-based, longitudinal, qualitative interview study.
Setting: Five general practices in northeast England. Participants: 13 respondents (2 practice managers, 3 nurses, and 8 general practitioners) gave a total of 19 semi-structured interviews. Forty people in practices included in the randomized controlled trial (34 doctors, three nurses) and interview study (three doctors, one previously interviewed) gave feedback.
Results: Negative comments about the decision support system significantly outweighed the positive or neutral comments. Three main areas of concern among clinicians emerged: timing of the guideline trigger, ease of use of the system, and helpfulness of the content. Respondents did not feel that the system fitted well within the general practice context. Experience of "on-demand" information sources, which were generally more positively viewed, informed the comments about the system. Some general practitioners suggested that nurses might find the guideline content more clinically useful and might be more prepared to use a computerized de-

cision support system, but lack of feedback from nurses who had experienced the system limited the ability to assess this.

Conclusions: Significant barriers exist to the use of complex clinical decision support systems for chronic disease by general practitioners. Key issues include the relevance and accuracy of messages and the flexibility to respond to other factors influencing decision making in primary care. 0959-535X, FEB 8, 2003, vol. 326, issue 7384, 314-318B, ISI: 000180997000020, C.

Gambrill, E, Evidence-based practice: An alternative to authority-based practice, FAMILIES IN SOCIETY-THE JOURNAL OF CONTEMPORARY HUMAN SERVICES, 1044-3894, JUL-AUG, 1999, vol. 80, issue 4, 341-350, ISI:000081208600005.